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Economics is all about choices, under which conditions these choices are made and the circumstances of these choices. Economics can be defined in a few different ways such as; it’s the study of scarcity, the allocation of scarce resources among the choices and the study of decision making. Since economics involves topics like finance, recession, banking and wealth, there is a misconception that economics is being all about money and the stock market. However, economics is a much comprehensive discipline that helps us understand yesterday’s trends, interpret today’s matters and make a prediction for the future.

Economic conditions are constantly changing, and each generation looks at its own problems in its own way. Economic laws are a part of the material which Conscience and Common-sense have to turn to account in solving practical problems, and in laying down rules which may be a guide for the lifetime. While the laws of economics remain broadly the same, there is still space and need for new scientific developments in economics in order to evaluate and examine the current challenges. Even the smallest developments in the global economy have important effects on social and business life and that the studies in the field of economics have become more important than ever. In order to discuss recent developments on economic researches, we aimed to bring scientists, decision and policy makers, entrepreneurs, investors, and postgraduate students from all around of the world.

The 3rd International Conference on Economic research, ECONALANYA 2019, was held on 24-25th October 2019 in Alanya, Turkey and includes presentations on macro and micro level economics. The conference is organized by Alanya Alaaddin Keykubat University in order to bring together researchers from all over the world. Participants from about 20 countries made the conference truly international in scope. While the topics presented at the conference varies, the key speeches topics of the conference were chosen as monetary policy and global trading system.

The conference keynote speakers shared their views and academic researches on these topics. Prof. Dr. Richard A. Werner from Oxford University, Dr. Marc Bacchetta from World Trade Organization (WTO) and Prof. Dr. Peter Neary from Oxford University were the keynote speakers of the conference in the opening session. Prof. Dr. Richard A. Werner outlined the key empirical problems – “anomalies” – in conventional economics in his speech titled “The Collapse of Conventional Economics and Ascent of the New Paradigm in Macroeconomics”. Moreover, he expressed that If there are banking crises, according to conventional economics they should never have any real impact on the economy. But there have been over 100 banking crises in the past 50 years; with devastating impact. Dr. Marc Bacchetta had a talk about the importance of trade on global economic development in his speech titled “Making Trade More Inclusive: The Role of Domestic Policies and International Cooperation”. He especially expressed that peaceful trading relations in turn contribute to growth and development worldwide. Prof. Dr. Peter Neary talked about gravity and international trade as titled “Gravity without Apologies: The Science of Elasticities, Distance, and Trade”. He presented the theory of gravity with recent empirical results, which also encourage the participants for further researches.

It is my wish that this conference that allows scientists, practitioners and independent researchers outside universities to present their theoretical, analytical and experimental research will contribute to the scientific literature and policy-makers’ decisions, and I would like to express my appreciation to all participants and keynote speakers for their significant contributions. Last but not least, I would like to send my gratitude to Saliha Çelik, Bekir Çınar, Muhammet Necati Çelik, Kemal Sür, Egemen Güneş Tükenmez and Nazlı Türker for their valuable assistance and co-operation. I would also like to gratefully acknowledge the generous support from Rector of Alanya Alaaddin Keykubat University Prof. Dr. Ekrem Kalan, and I would like to extend my thanks to the head of ALTİD Burhan Sili. Lastly, I would like to thank the Central Bank of the Republic of Turkey (CBRT) for their support and sponsorship.

Harun UÇAK, PhD.
Chairman/Editor
CENTRAL BANK SEIGNIORAGE AND PROFITS
DURING THE CRISES OF 2007-2018

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Abstract

What has been the relationship between seigniorage and central banks’ financial results in recent years? Seigniorage is typically the key source of central bank profit which is largely transferred to the government; these payments show, however, considerable volatility, often creating political economy problems.

In this paper we study the development of seigniorage of seven central banks in the context of their financial results and transfers made to the government during the period of 2003-18, with a special emphasis on the crisis period (2007-14). The institutions considered are the central banks of the euro area, Japan, Poland, Sweden, Switzerland, the United Kingdom and the United States.

The novelty of the paper stems from the methodology applied to calculating seigniorage, which – contrary to other academic attempts at measuring it – is based on a direct analysis of central banks’ annual financial statements, i.e. their balance sheets and profit and loss accounts (income statements). We show that during the period studied seigniorage tended to diverge considerably with respect to central banks’ financial results and payments made to the government.

Three more detailed questions guided our research. First, how to define and measure seigniorage? Second, what was the impact of the crisis on seigniorage as a source of central banks’ financial results and the following transfers to respective governments? Third, what has been the influence so far and what are the challenges of the currently discussed issues of exit policies and the normalization process?

Concerning the first question we decided, contrary to many approaches, to adopt a cash-based definition of seigniorage which states that seigniorage is the income on central bank’s assets against its liabilities in the form of banknotes and coins (i.e. cash) in circulation net of expenses on their issue. Two variants of seigniorage calculation are used: in the first, seigniorage is linked to interest income on central bank assets, in the second – to total income on assets.

Referring to the second question, our results show that for the period studied, seigniorage understood as above (both variants) typically amounted to less than 0.5 per cent of current GDP, i.e. in line with earlier estimates of seigniorage in a low inflation (and interest rate) environment. Moreover, throughout the crisis and the implementation of quantitative easing policies, central banks’ balance sheets expansion was usually accompanied by a considerable, but declining, as a ratio of their balance sheets, increase in cash issuance. As a result, there was no above-average increase in seigniorage (especially in the first variant of estimates). In the crisis period seigniorage was mainly affected by a change in the return on central banks’ assets. However, financial results of many central banks during (and after) the crisis increased considerably. Consequently, remittances to the state budget also increased, although they varied significantly due to different policies towards central bank profit distribution.

Finally, as concerns the third question, we estimated that the Fed and the Eurosystem have been the most protected against recording negative interest income during the normalization process among the analyzed central banks conducting unconventional monetary policies.

Keywords: Seigniorage, Financial Result, Global Financial Crisis, Sovereign Debt Crisis, Exit Policies.
HOW THE ASIAN INFRASTRUCTURE INVESTMENT BANK CHALLENGES THE WORLD BANK: A COMPARATIVE ANALYSIS OF PROJECTS BY THE AIIB AND THE WORLD BANK IN GUJARAT, INDIA

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Abstract

Since opening in January 2016, the Asian Infrastructure Investment Bank (AIIB) has grown to a hundred members and fifty approved projects. As it enters the arena of multilateral development banks, the AIIB challenges the traditional Bretton Woods institutions and signals the desire of China, its largest shareholder, to gain more political and economic power. In a comparative study, I compared the project and loan agreements of three particular projects undertaken in Gujarat, India: the World Bank’s “Rural Roads Project (1987-1995),” the World Bank’s “Second Gujarat Highway Project (2013-2020),” and the AIIB’s “Gujarat Rural Roads Project (2017-2019).” I found that the AIIB is similar in structure to the World Bank but provides several improvements such as more detailed economic and environmental analyses, customizable repayments, and lack of demands on economic liberalization and deregulation. I also found that the World Bank has gradually improved its lending terms and implemented significant reforms since the establishment of the AIIB, almost definitely to respond to the new competition. This paper yields support from a microscopic level for claims from existing literature that China will become a more relevant and prominent player in global economic and political governance. Possible directions for future research include comparisons with other multilateral development banks such as the Asian Development Bank and quantitative studies after the AIIB’s projects have yielded empirical results.

Keywords: Asian Infrastructure Investment Bank, China, World Bank, Global Governance, Multilateral Development Banks, India.

1. Introduction

In January 2016, the Asian Infrastructure Investment Bank (AIIB) opened its door for business in Beijing. It aims to improve social and economic outcomes in Asia by “investing in sustainable infrastructure and other productive sectors” and has grown to 100 members today (AIIB 2019b). As the AIIB enters the arena of multilateral development banks (MDBs) long dominated by the Bretton Woods institutions, its establishment signals the desire of China, the bank’s largest shareholder, to not only participate in but also lead global political and economic governance.

There is no contention that the AIIB, along with other China-led initiatives such as the New Development Bank (NDB) and the more amorphous Belt and Road Initiative, reflects a fundamental change in global political and economic power. How is the AIIB different from the more traditional MDBs, particularly the World Bank? How has the World Bank responded to the establishment of the AIIB?

Through a comparative study, I argue that the AIIB is similar in structure to the World Bank but provides several improvements such as more detailed economic and environmental analyses and more favorable terms, thereby qualifying itself as a challenger to the Bretton Woods institutions. In response to the establishment of the AIIB, the World Bank has improved its terms and implemented reforms, which it had hesitated to do previously.

This paper contributes to the understanding of the AIIB’s position in global economic and political governance by carefully examining and comparing three projects in Gujarat. It also provides concrete evidence of how the World Bank has responded to the new competition.

2. Literature Review

Scholars are split between two main schools of thought on the subject of the AIIB. Some contend that the AIIB is similar to existing MDBs in structure and in essence, and thus provides no meaningful
addition to the realm of development banks. Shahar Hameiri and Lee Jones (2018) argue that there exists “little substantive difference between the AIIB and existing MDBs” (592). Phillip Lipsky (2015) writes that “the AIIB is highly unlikely to undermine existing aid organizations.” Ming Wan (2016) observes that the bank is “nested to the World Bank and the Asian Development Bank (ADB), thus firmly situated within the existing international financial order” (58).

The second view is more optimistic, maintaining that the AIIB challenges and even improves upon existing MDBs. Helmut Reisen (2015) estimates that the NDB and AIIB together will “attract sufficient co-financing to rival the established MDBs in terms of annual lending” (297). Matthew Stephen and David Skidmore (2019) see the AIIB as “China’s integration into global social networks” (61) while Abdi Dahir (2018) asserts that the growing membership of the bank “challenges the IMF-World Bank orthodoxy.” Zhao, Gou, and Li argue that the China-led development bank is “probably more efficient and economically sustainable, which is an improvement on the traditional MDBs” (267).

The two views are not completely mutually exclusive – it is plausible that the AIIB challenges the more traditional MDBs while comparable in structure to them. There is general support for the claim that developing countries have historically had to adopt some sort of Western model when accepting aid from Western institutions (Li 2017, 202). The AIIB and the NDB could address this problem as less constraining alternatives.

3. Analytical Framework

I examine the research questions through a comparative study. Most papers and articles on the AIIB focus on the big picture by either analyzing the structural similarities and differences between the AIIB and the other MDBs, or contemplating the future of global political and economic governance. I attempt to focus on particular projects undertaken by the MDBs. By design, this study is more qualitative than quantitative, partially because the newly-established AIIB lacks systematic data. Therefore, I focus on the project and loan agreements.

As economic theory suggests, a new entrant to an oligopolistic market tends to drive the price down. In the context of MDBs, this could mean lower interest rates and less demanding conditionalities. Hoping to contribute to theories about competition between MDBs, I also aim to analyze the effect of the AIIB’s establishment on the changes in conditionalities of the World Bank loans.

4. Research Design

I have selected three infrastructure projects in Gujarat, India as case studies. Specifically, I have chosen the World Bank’s “Rural Roads Project – Gujarat (1987-1995), “Second Gujarat Highway Project (2013-2020) and the AIIB’s “Gujarat Rural Roads Project (2017-2019).” I focus on the World Bank out of the Bretton Woods institutions because the World Bank has similar objectives as the AIIB whereas IMF is primarily concerned with “global monetary cooperation and financial stability” (IMF 2019). I chose India as the country of analysis because it has more AIIB projects than any other country – as of October 22, 2019, twelve out of the forty-four country-specific projects are in India (AIIB 2019a). The project should be representative of AIIB’s project portfolio, which focuses on sustainable infrastructure sectors.

Since the projects relate to the same sector in the same state, we do not need to control the usual variables of concern such as geography and history. We cannot compare the results of these projects, as two of the projects are still ongoing. We can, however, use project documents and reports available on the two banks’ databases to analyze the structural differences such as implementation arrangements and loan conditions. The differences between AIIB’s project and the World Bank’s ongoing project should reflect broader differences between the two banks today, while the discrepancy between the two World Bank projects should show how the World Bank has evolved over the past thirty years.
5. Case Studies


The World Bank’s two biggest units are the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA). The IDA is more charitable: it collects donations from the richer countries and “gives the money to the world’s poorest countries, in the form of zero-interest loans or outright grants that need not be repaid” (The Economist). The IBRD borrows money cheaply, at around the London Interbank Offered Rate (LIBOR), on the international financial markets and then lends that money to other developing countries at a premium.

The IDA funded US$119.6 million out of a total cost of US$170 million for the Rural Roads Project, which sought to “provide all-weather roads to the rural poor and to improve rural road construction and maintenance” in Gujarat (The World Bank 1987a). The state of Gujarat was responsible for the execution, implementation, and procurement of the project. The World Bank required that Gujarat employ consultants of the bank’s standards to assist with the project. Notably absent from the Project Agreement are detailed economic, risk, and environmental analyses: it merely specifies project objectives and logistical procedures.

The Project Agreement included provisions that often attract criticisms of the World Bank’s operations (Head 1996; Sehrawat 2018). For instance, the procurement section required “International Competitive Bidding,” where goods and services must be procured in accordance of the “Guidelines for Procurement under IBRD Loans and IDA Credits” (The World Bank 1987b). This is one of the conditions termed the “Washington Consensus,” a set of economic policies focusing on economic liberalization and deregulation used by Washington, D.C.-based institutions, including the World Bank (Sehrawat 2018, 12).

The Credit Agreement set forth an annual 0.50% commitment charge on the credit (equivalent to IBRD’s and AIIB’s definitions of loan) not withdrawn and an annual 0.75% service fee on the principal. Gujarat shall repay the loan in eighty semi-annual installments, each at the rate of 0.50% from May 1997 to November 2006 and at the rate of 1.50% from May 2007 to November 2036 (The World Bank 1987a).

The project was completed in December 1995, a year later than scheduled. The Implementation Completion Report notes slow start to the project as a result of “inadequate funding [from Gujarat] and poor management,” a critical component of the project “substantially behind schedule,” and “construction quality problems reported by Bank supervision missions.” Specifically, economic analyses were criticized as “often undertaken by engineering staff poorly trained in economic analysis” or not conducted at all (The World Bank 1996).

5.2 Case 2. Second Gujarat State Highway Project, World Bank, 2013-2020 (expected)

In 1994, India graduated from IDA lending to IBRD lending. Therefore, we should expect to see less favorable terms and conditions in this project than in the IDA project above. In 2013, the Second Gujarat State Highway Project was approved to “improve capacity, and enhance quality and safety of road services for the users of the core road network of state highways in Gujarat” (The World Bank 2019b).

The Project Agreement stipulates that the Gujarat Roads and Buildings Department (R&BD) shall implement the project in accordance with such World Bank’s provisions as “Anti-Corruption Guidelines.” (The World Bank 2014b, 4-6). R&BD shall also monitor and evaluate the progress of the project and prepare reports for the World Bank (8-9). In contrast to the previous case, detailed cost-benefit and technical analyses were conducted before the Project Agreement was signed: there are more than fifty documents on resettlement action plans and environmental assessments dated earlier than the Agreement (The World Bank 2019b). By comparison, the Rural Roads Project had two (The World Bank 2012).

The IBRD charges a 0.25% front-end fee on the loan amount, an annual commitment fee of 0.25% on undisbursed balances, and a semi-annual interest based on a “Variable Spread,” meaning that the Bank notifies the borrower of the specific interest rate every Interest Period (IBRD 2010; The World...
Bank 2015). As of July 2019, the variable spread for this loan is LIBOR+0.79% (The World Bank 2019a). Each of 26 semi-annual principal repayments is to cover 3.85% of the principal except the last one in December 2031, which covers 3.75% (The World Bank 2014a).

Conditions of the Washington Consensus are still present throughout the Project Agreement. The Procurement section, for instance, still requires “International Competitive Bidding” and “Quality- and Cost-based Selection” (The World Bank 2014a).

5.3 Case 3. Gujarat Rural Roads Project, AIIB, 2017-2019 (expected)

As of 2017, around 300,000 villages out of 825,000 villages did not have all-weather road access, constraining economic activities in rural areas (AIIB 2016). This AIIB project aims to improve the rural road connectivity to small villages in all the districts in Gujarat, benefitting about 8 million people.

The local government is trusted with the implementation of the project: the project document writes that the R&BD “has sufficient professional staff to plan, manage and control the project” (AIIB 2017b, 11). The AIIB supervises via a consulting firm.

The R&BD has overall accountability for maintaining the financial management system of the project and for ensuring that activities are carried out in accordance with the project agreements (13). As a matter of fact, the Project Agreement indicates that the R&BD has an existing Governance and Accountability Action Plan with anti-corruption initiatives and a centralized e-procurement system “that was prepared earlier for the WB-funded Second Gujarat State Highway Project” (17).

The loan has a maturity of 13 years including a 5-year grace period, with customized repayments at the “Bank’s standard interest rate for Sovereign-backed loans” (10). Specifically, the Bank will charge a one-time 0.25% front-end fee on the loan principal, a 0.25% commitment fee on undisbursed loan balances, and a fixed lending spread of 0.75% to 6-month USD LIBOR on the loan principal (AIIB 2016).

Detailed project assessment, including cost-benefit analyses, was conducted. The report includes five components: technical, economic and financial analysis, fiduciary and governance, environmental and social, and risks and mitigation measures. Unlike the previous two projects, the Project Agreement does not include provisions similar to those of the Washington Consensus.

Table 1. Summary of Projects

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Rural Roads Project - Gujarat</th>
<th>Second Gujarat State Highway Project</th>
<th>Gujarat Roads (Phase 1)</th>
<th>Rural Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDB Involved</td>
<td>IDA of World Bank</td>
<td>IBRD of World Bank</td>
<td>AIIB</td>
<td></td>
</tr>
<tr>
<td>Project Cost</td>
<td>$170 million</td>
<td>$323 million</td>
<td>$658 million</td>
<td></td>
</tr>
<tr>
<td>MDB Funding</td>
<td>$119.6 million</td>
<td>$175 million</td>
<td>$329 million</td>
<td></td>
</tr>
<tr>
<td>Front-End Fee</td>
<td>0.00%</td>
<td>0.25%</td>
<td>0.25%</td>
<td></td>
</tr>
<tr>
<td>Commitment Fee</td>
<td>0.50%</td>
<td>0.25%</td>
<td>0.25%</td>
<td></td>
</tr>
<tr>
<td>Service Fee / Interest Rate</td>
<td>0.75%</td>
<td>6-month USD LIBOR + Variable Spread (0.79% in April 2019)</td>
<td>6-month USD LIBOR + Fixed Spread of 0.75%</td>
<td></td>
</tr>
<tr>
<td>Maturity</td>
<td>40 years</td>
<td>13 years</td>
<td>13 years, including a 5-year grace period</td>
<td></td>
</tr>
<tr>
<td>Repayment Frequency</td>
<td>Semi-annual</td>
<td>Semi-annual</td>
<td>Customizable</td>
<td></td>
</tr>
<tr>
<td>Requires International Competitive Bidding</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>
6. Discussion

The case studies agree through a more microscopic perspective with existing literature that the AIIB has “remarkably similar operating guidelines [as those of] the Bretton Woods framework” (Liao). AIIB’s project agreement is indeed similar in structure to the World Bank’s agreements, but includes more detailed technical, economic, risk, and environmental analyses.

Comparing the two World Bank projects, we observe that the commitment fee has decreased. The IBRD project charges a higher interest rate than the IDA project, but this is due to the different functions of the two units. The second project includes significantly more analyses and provisions, likely drawing from the lessons of the previous projects. Both projects, however, entail demands of economic liberalization and deregulation that are not present in AIIB’s project agreement.

Comparing the two ongoing projects, we notice that the IBRD and the AIIB use the same lending structure of charging a premium over the 6-month USD LIBOR as the interest rate, but the AIIB project uses a fixed spread while the World Bank project uses a variable spread. If a new IBRD project in Gujarat with the same maturity as the AIIB project were to use the method of fixed spreads, it would face an interest rate of LIBOR+0.65%, 0.10% lower than the AIIB counterpart. This is not a coincidence: the IBRD decreased its fixed spread over LIBOR for a loan to India with a maturity of up to eight years from 0.75% in July 2017 to 0.70% in October 2017 and later to 0.65% in January 2019, almost definitely to respond to competition by newly-established MDBs such as the AIIB and the NDB (IBRD 2017a; IBRD 2017b; IBRD 2019a; The World Bank 2017). Another distinction between the two projects was that the World Bank required semi-annual repayments, while the AIIB allowed customized repayments.

In July 2018, the IBRD adopted new loan pricing measures that differentiate the members based on factors such as national income (IBRD 2018; The World Bank 2018a). India belongs to Group A, which receives the most preferential treatment within the IBRD. This explains why the World Bank offers a lower interest rate than the AIIB for a fixed spread loan to India. The AIIB, by contrast, does not distinguish among its borrowers. That is to say, Turkey, which is in IBRD’s Group C, might receive better terms from the AIIB than from the IBRD. Tables 2 and 3 compare the fixed spreads and variable spreads between the two banks. In general, the AIIB’s terms are more favourable for loans with longer maturities and for countries in IBRD’s Groups C and D. In July 2019, the World Bank decreased all variable spreads by 0.01% so that some countries enjoy lower spreads than at the AIIB (IBRD 2019b). Before then, under no circumstances would any country face a lower interest rate at the World Bank than at the AIIB. This is yet another proof that the World Bank has improved its terms in response to the new competition.

Table 2. Comparison of Fixed Spreads, as of July 2019

<table>
<thead>
<tr>
<th>Average Maturity</th>
<th>8 years and below</th>
<th>Greater than 8 and up to 10 years</th>
<th>Greater than 10 and up to 12 years</th>
<th>Greater than 12 and up to 15 years</th>
<th>Greater than 15 and up to 18 years</th>
<th>Greater than 18 and up to 20 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBRD, World Bank (IBRD 2019b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group A</td>
<td>0.65%</td>
<td>0.85%</td>
<td>0.95%</td>
<td>1.10%</td>
<td>1.30%</td>
<td>1.40%</td>
</tr>
<tr>
<td>Group B</td>
<td>0.65%</td>
<td>0.85%</td>
<td>1.00%</td>
<td>1.20%</td>
<td>1.45%</td>
<td>1.60%</td>
</tr>
<tr>
<td>Group C</td>
<td>0.65%</td>
<td>0.85%</td>
<td>1.05%</td>
<td>1.30%</td>
<td>1.60%</td>
<td>1.80%</td>
</tr>
<tr>
<td>Group D</td>
<td>0.70%</td>
<td>0.90%</td>
<td>1.15%</td>
<td>1.45%</td>
<td>1.80%</td>
<td>2.05%</td>
</tr>
<tr>
<td>AIIB (AIIB 2019c)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Countries</td>
<td>0.75%</td>
<td>0.90%</td>
<td>1.00%</td>
<td>1.15%</td>
<td>1.30%</td>
<td>1.40%</td>
</tr>
</tbody>
</table>
Table 3. Comparison of Variable Spreads, as of July 2019

<table>
<thead>
<tr>
<th>Average Maturity</th>
<th>8 years and below</th>
<th>Greater than 8 and up to 10 years</th>
<th>Greater than 10 and up to 12 years</th>
<th>Greater than 12 and up to 15 years</th>
<th>Greater than 15 and up to 18 years</th>
<th>Greater than 18 and up to 20 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBRD, World Bank (IBRD 2019b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group A</td>
<td>0.49%</td>
<td>0.59%</td>
<td>0.69%</td>
<td>0.79%</td>
<td>0.89%</td>
<td>0.99%</td>
</tr>
<tr>
<td>Group B</td>
<td>0.49%</td>
<td>0.59%</td>
<td>0.74%</td>
<td>0.89%</td>
<td>1.04%</td>
<td>1.19%</td>
</tr>
<tr>
<td>Group C</td>
<td>0.49%</td>
<td>0.59%</td>
<td>0.79%</td>
<td>0.99%</td>
<td>1.19%</td>
<td>1.39%</td>
</tr>
<tr>
<td>Group D</td>
<td>0.54%</td>
<td>0.64%</td>
<td>0.89%</td>
<td>1.14%</td>
<td>1.39%</td>
<td>1.64%</td>
</tr>
<tr>
<td>AIIB (AIIB 2019c)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Countries</td>
<td>0.50%</td>
<td>0.60%</td>
<td>0.70%</td>
<td>0.80%</td>
<td>0.90%</td>
<td>1.00%</td>
</tr>
</tbody>
</table>

7. Conclusion

The case study yields remarkable proof that the lending terms from the World Bank have improved significantly since the establishment of the AIIB, and that the World Bank faces more pressure than ever before to reform its operational structures. Our analysis also supports the hypothesis that the AIIB has similar Project and Loan Agreements as the World Bank, but provides several improvements such as customizable repayments and conditionalities not traceable to the Washington Consensus. Possible avenues for future research include quantitative studies after the AIIB’s projects yield empirical results, and comparisons with other MDBs such as the NDB, the ADB, and the European Bank for Reconstruction and Development.

It is well known that Western development efforts are influenced by the motives of spreading liberal democracy and Western institutional frameworks. Without explicit goals of spreading the national interests of its biggest shareholders, the AIIB returns to the fundamentals of a bank: it judges a borrower based solely on economic considerations. In doing so, China will likely become a more relevant and prominent player in global economic and political governance as the AIIB reaches increasingly more developing countries with conditionalities less constraining than the World Bank’s.

References


How the Asian Infrastructure Investment…


THE EFFECT OF DOMESTIC RISKS ON ECONOMIC RISK IN NORTHERN AFRICAN COUNTRIES: FINDINGS FROM FIRST AND SECOND GENERATION PANEL APPROACHES

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Abstract

This study aims to shed some light on the effect of financial risk, political risk and Arab Spring on economic risk in the Northern African countries, namely Algeria, Egypt, Libya, Morocco and Tunisia while controlling global vulnerability. In this study, we used first and second generation panel based models, including Pedroni Cointegration, Westerlund Cointegration, FMOLS, DOLS, DCCEMG. In this study, we used quarterly datasets covering the period of 1997Q2 to 2015Q2 from the PRS Group. Our empirical findings reveal that (i) there is cointegration equation between economic risk and financial risk, political risk, global risk and Arab spring; (ii) financial and political stabilities positively effects economic stability; (iii) Arab spring negatively affected economic stability in the Northern African countries.

Keywords: Northern African Countries, Economic Stability, Financial Stability, Political Stability, Panel Dynamic CCEMG.
ECONOMIC ANALYSIS OF ARTISANAL FISH MARKETING ENTERPRISE IN DEGEMA REGION OF RIVERS STATE, NIGERIA

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Abstract

The study economically analyzed the marketing of artisanal fish enterprise in Degema Local Government Area (LGA) of Rivers State, Nigeria. The study further described the socio-economic features of the artisanal fish marketers, determined the cost and returns analysis of the fish marketers and identified the constraints militating against the fish marketers in the study area. Four communities (Degema, Bakana, Tombia and Ke) in the LGAs formed the area of the study. Purposive and random sampling techniques were adopted for the study. The study established that a very high percentage of the respondents (68.3%) fall between the ages of 26 and 45. Almost half of the respondents (47.5%) have no formal education. Distribution of respondents by occupation showed that only 34.2% are full time fishermen with greater majority of them alternating fishing with other livelihood activities such as crop farming (57.5%) civil service/teaching (5.8%) and hunting (2.5%). Over 55% of the respondents have household size of between 6 and 15 people. Most of the respondents have more than 15 years of fishing experience. On fishing practices by the respondents, the study showed that majority of the fishermen, (55%) use both nets, hooks and traps in fishing. Only 7.5% of the respondents have access to credit facilities in the study area while only 14.17% have access to fishery extension services. The cost and return analysis of the fishing enterprise show that the enterprise is profitable with a positive Net Farm Income (NFI) of ₦18,413.68) and a benefit cost ratio of 1.39. Regression results show that the output of artisanal fishing households is positively associated with all the variables. There is no significant relationship between the socio-economic characteristics of the artisanal fishers and their returns reinstating as there is significant relationship between socio-economic characteristics of artisanal fishers and the returns to the fishers. This study also identified several constraints militating against the full exploitation of natural fishing sites. These constraints range from technological to economic constraints. Technological constraints include: inability to construct/fix nets and traps, inability to manoeuvre/handle gears effectively, lack of modern storage facilities, and absence of processing facilities; while some economic constraints are: high cost of fishing gears, lack of credit facilities, low income as a result of poor catch and high cost of processing/storage facilities. These constraints negatively affects fishery livelihood due to reduced income and profit. Findings indicate that artisanal fishing experience appears to be an important human capital incentive for increasing fishing productivity, and further revealed that most respondents have no access to credit facilities to enable them procure fishing crafts and gears whose prices have gone beyond the reach of an average fisherman.

Keywords: Marketing, Fish, Fishers, Fishing, Enterprise, Nigeria.

1. Introduction

Artisanal fishing is a major source of livelihood for those residing in riverine communities (Ladu, Sogbesan and Tafida, 2013). According to Raji, Okaema, Omorinkoba and Bwala (2012), they are sometimes referred to as small-scale fisheries. These are traditional fisheries involving fishing households, using relatively small amount of capital and energy, small fishing vessels (if any), making short fishing trips, close to shore, and are mainly for local consumption (Amos and Linus, 2017). Artisanal fisheries can be subsistence or commercial fisheries, providing for local consumption or export (Offor, Ibeagwa, and Ikemefuna, 2016). Previous studies revealed that fishing is an economic
activity which requires capital investment which is characterized by the use of dug-out, wooden canoes that are often not motorized, operated by individual or small groups using labour intensive gears of relatively low level of productivity (Agbugba, 2018).

In general, artisanal capture fisheries, which are low capital, low operational costs and limited gear coverage, characterize fishing activities in Nigeria (Fregene et al., 2003). It may not be capital intensive at the level of artisanal fishermen in the north because subsistence practices characterize the artisanal fisheries as also observed in Lagos and Rivers States by Adesehinwa and Bolorunduro (2007). Fishing inputs commonly used include canoe, paddles, hooks, gill nets, cast nets, beach seining and drift nets. However, there are costs component associated with fishing and the disposal of the catch. This is true as fishermen are engaged in marketing and distribution of their daily catch (fresh fish) in addition to fishing (Laduet al., 2013).

The marketing activities carried out by fishermen include transportation of catch via various means (use of canoe, donkey, bicycle, motor cycle, among others) from the waterside to various markets for on-ward selling, preservation for reduction of post-harvest losses of the highly perishable commodity. Regardless of the fact that the fishers do not incur production costs, they also employ labour in capturing or harvesting of fish from the natural water bodies thereby incurring costs in their daily struggle to dispose the highly perishable commodity (Ekundayo, Sogbesan and Haruna, 2014). The fisheries sector is crucial to food security and poverty alleviation. In 2008, it was documented that the world consumed 115 million tonnes of fish, and demand is expected to rise. Fish and fishery products are a vital and affordable source of food and high-quality protein. Fish as food is said to supply over 3 billion people with at least 15% of their annual protein intake thereby contributing about 17 kg weights per person (FAO, 2010). According to de Silver (2011), supply of fish and fish products come from domestic products as well as from imports. Other sources of local production include artisanal fisheries. The domestic sources of fish and its products are from the lakes, onshore coastal, brackish water and offshore and contribute about 90% of the total domestic production while the remaining percentage come from fish culture (Ezihe, Agbugba and Ogbeba, 2014).

According to Ogbeba (2009), fish marketing involves the various activities that direct the flow of fish whether fresh or processed from landing to the consumers. Some functions of marketing include: collection of fish, transportation to the market centres, pricing, buying and utilization. It is pertinent to note that marketing of fish shows that capture fisheries activities provides employment to many residents of the state (Reheim and Sutinem, 2006). However, due to the predominance of diverse fish species such as Tilapia, Barakuda, Sharks, to mention a few, in the study area, the study dwelt on them (Ezihe, 2013).

Nigerians are high consumers of fish. Current demand for fish is estimated at 1.55 million tonnes. Domestic fish production was 511,000 mt in 2002. Fish importation was 560,000 mt for 30,00 billion (US 400 m) in 2002. It is therefore pertinent to note that World Bank estimates fish importation at 560,000 to 700,000 mt/year in Africa.

Nigeria is the largest importer of fish in Africa annually. Nigeria can substitute fish imports with domestic production to create jobs and reduce poverty in rural areas where 70% of the population lives (FAO, 2005). Lack of bargaining power is mostly due to the highly perishable nature of fish as a commodity and the gluts experienced at certain periods. In such instances, the fisherman is forced to sell at a price resulting in low net returns or net margin or profit (Department of the Treasury, 2017). Over the years, the operational mode of artisanal fisheries has experienced little or no change with the fisher folks still employing rudimentary techniques and gears for several decades (Obasi, 2015). However, Nigeria has about 14 million hectares of inland marine waters which are poorly exploited. Aquaculture potential could produce more than 2 million tonnes of fish annually. In order to bridge the gap between wild catch and the demand for fish in Benue state, a study on the economic assessment of fish marketing has become very important.

Marketing is of high importance to fish, thus before we think of production, we must first of all think of an available market for it (Kohls & Uhl, 1980). They further stated that, the difficulty with the global food situation appears to be not how big a pie we can bake but how to cut and share the pieces. Agricultural production and fish marketing must develop hand in hand because they are partners in a progressive system (Falodun, 2011). An efficient market is bound to foster the goals of economic development, namely increased real income and income redistribution.
From the foregoing, there are various channels through which fresh or processed fish must pass before reaching the final consumers in time and in their desired form. The prices of fish changes as it passes through the middlemen so that by the time it gets to the consumers it becomes quite expensive resulting in its unaffordability, as well as its unavailability to the average buyers. According to Lawal (2002), much work has been done on the economics of fish farming, its profitability and technical efficiency.

1.1 Objectives of the Study

The broad objective of the study is to examine the market analysis of artisanal fish enterprise in Degema Local Government Area (LGA) of Rivers State. Specifically, the study:

(i) Described the socio-economic features of the artisanal fish marketers;
(ii) Determined the cost and returns analysis of the artisanal fish marketers;
(iii) Identify the constraints militating against artisanal fish marketing.

2. Materials and Methods

The study was carried out in Degema Local Government Area in Rivers State of Nigeria with a landmass of 2342sq km and population 920,208 (NPC, 2007). The local government has approximately 12km out of Nigeria’s 800km coast-line. This expanse of coast-line places the local government at highly advantaged position to the waterways and the abundant wealth underneath it. According to Udong (2010), such aquatic wealth included large stock of crayfish, bongafish, tilapia, shark, croakers, catfish, sole, sardine, snapper, mackerel, tuna, mudfish, shiny nose, shrimp, lobster and shell fishes. The local government lies between latitudes 40 321 and 50 331 North and longitudes 70 251 and 80 251 East of the Equator, and is bounded in the North-West by Abonnema, on the south by Bonny.

Degema has Tombia, Bakana, Kuma. Ke, Bille, Harry’s Town, Usokun just to mention, but few. Purposive and random sampling techniques was adopted in selecting the respondents for the study. Firstly, a purposive sampling procedure was adopted in selecting four (4) communities (Degema, Tombia, Bakana and Ke) from the study area, due to the flow of Sombiroro River, a major river flowing to the fishing communities, chosen. Secondly, simple random sampling technique was chosen in selecting 18 fish marketers (i.e. 9 wholesalers and 9 retailers) from each of the communities already selected. This gave a total sample size of 90 respondents for the study as summarized in Table 1.

Table 1. Summary of the Sampling Procedure

<table>
<thead>
<tr>
<th>Communities</th>
<th>Fishing Communities Being Chosen</th>
<th>Wholesalers</th>
<th>Retailers</th>
<th>Total No of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bille</td>
<td>X</td>
<td>10</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Degema</td>
<td>X</td>
<td>10</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Bukuma</td>
<td>X</td>
<td>10</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Bakana</td>
<td>X</td>
<td>10</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Harrys Town</td>
<td>X</td>
<td>10</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Tombia</td>
<td>X</td>
<td>10</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Usokun</td>
<td>X</td>
<td>10</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Ke</td>
<td>X</td>
<td>10</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>40</td>
<td>40</td>
<td>80</td>
</tr>
</tbody>
</table>

Descriptive tools of statistics such as tables, means, graphs, charts and Likert rating scale were used to achieve objective (i). More so, Simple Budgetary Analysis was used to achieve objective (ii), while Four-Point Likert Scale Rating Technique was used in realizing objective(iii).
2.1 Simple Budgetary Analysis

Simple Budgetary analysis was used in analysing costs and returns analysis especially in fish marketing (Suleiman, 2007). The budgetary model is given by:

\[ NR = P - (\sum X_1 \ldots n) \]

Where:

- \( NR \) = Net return from marketing of fresh fish
- \( X_1 \) = Local government revenue (₦)
- \( X_2 \) = Transport charges (₦)
- \( X_3 \) = Commission paid to selling agents (₦)
- \( X_4 \) = Packaging or repackaging cost (₦)
- \( X_5 \) = Labour cost for catching fish (₦)
- \( X_6 \) = Depreciation on fishing gears (per day) (₦)
- \( P \) = Selling price of unit quantity of fresh fish (measured in small metal basin of 15kg).

2.2 Likert Rating Scale

The Likert scale was developed in 1932 by Rensis Likert. It is used extensively for attitude measurements (Uzoagulu, 2011). It works by presenting a set of statements about an issue and requesting respondents to indicate whether they strongly agree, agree, are undecided, disagree, or strongly disagree. These various responses are assigned values, and the total value is calculated through the summation of the values. This total value represents the respondent’s rating of a particular issue, and could be in favour or against the issue depending on the cut-off mark. The cut-off mark also depends on whether the rating is on a five-point scale or four-point scale. The cut-off is usually 3.0 if the rating is on a five-point scale and 2.5 if on a four-point scale. The four-point scale will be used as it does not give room for the respondents to be indifferent. The rating will be in this order: strongly agree (SA) = 4, agree (A) = 3, disagree (D) = 2, and strongly disagree (SD) = 1. The mean score of the respondents based on the 4-point scale will be 2.45. Based on these, any mean score below 2.45 (i.e. MS < 2.45) will be regarded as not important. Those between 2.45 and 2.55 will be considered as important (i.e. 2.45 < MS < 2.55). Mean score greater than 2.55 (MS > 2.55) will however be considered very important.

3. Results and Discussion

3.1 Socio-Economic Characteristics of the Respondents

These characteristics include the background information, which are inherent attributes of the fisherman or which are acquired as he grows (Agbugba, 2018). The socio-economic variables considered in this section include; age, household size, use of credit and extension services, fishing experience, educational status, major and minor occupations of respondents, transport means to fishing sites, number of fishing gears used and constraints associated with artisanal fishing.

3.1.1 Age of the Respondents

The frequency distribution of respondents according to age is shown in Table 3.1. The age distribution of the respondents showed that most of the fishermen fall between 26 and 45 years of age. This group accounted for 68.3% of the total respondents. This was followed by the age group of between 46 and 65 years with 26.7% of total respondents. The least in the age distribution structure is the age group of more than 65 years. This group accounted for 5% of the total respondents. The result implies that fishing activities are dominated by people in the more active age brackets. This is consistent with other fisheries studies such as Ezihe et al. (2013) and Ekine and Binaebi (2018).
3.1.2 Household Size of the Respondents

Household size of respondents in Table 2 was classified into four as follows: 1-5 members (11.7%), 6-10 members (33.3%), 11-15 members (22.5%) and above 15 members (25%). The family size is associated with the availability of timely labour, in this case larger families are likely to be more effective. On the other hand, a large household with more females and dependents reduce effectiveness in fishing due to low supply of fishing labour. This is because artisanal fishing in Nigeria is a male dominated activity. This result also conforms with similar studies done by Suleiman (2007), in the study of factors affecting income strategies among fishing households in Tanzanian coastal villages.

3.1.3 Respondents’ Fishing Experience

As shown in Table 2, the number of years the respondents have been engaged in fishing reveals that majority has more than 10 years of experience. 51.7% have more than 15 years while 22.5% have between 11 and 15 years’ experience in fishing. The common view of the role of experience in fishing comes from the fact that it enables heads of household to have information on fishing ground, where fish go and span, and water currents. Earlier studies by Bada (2015) on significance of improving the productivity of small- scale fishing households showed that experience in fishing could also enhance the ability to maneuver or handle gears effectively.

3.1.4 Respondents’ Level of Education

<table>
<thead>
<tr>
<th>Socio-Economic Characteristics</th>
<th>No of Respondents</th>
<th>Percentage%</th>
<th>CumulativePercentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (years)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 26</td>
<td>13</td>
<td>10.8</td>
<td>10.8</td>
</tr>
<tr>
<td>26 – 45</td>
<td>69</td>
<td>57.5</td>
<td>68.3</td>
</tr>
<tr>
<td>46 – 65</td>
<td>32</td>
<td>26.7</td>
<td>95.0</td>
</tr>
<tr>
<td>&gt; 65</td>
<td>6</td>
<td>5.0</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>120</strong></td>
<td><strong>100</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Household Size</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5</td>
<td>23</td>
<td>19.2</td>
<td>19.2</td>
</tr>
<tr>
<td>6-10</td>
<td>40</td>
<td>33.3</td>
<td>52.5</td>
</tr>
<tr>
<td>11-15</td>
<td>27</td>
<td>22.5</td>
<td>75.0</td>
</tr>
<tr>
<td>&gt;15</td>
<td>30</td>
<td>25.0</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>120</strong></td>
<td><strong>100</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Fishing Experience (years)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5</td>
<td>16</td>
<td>13.3</td>
<td>13.3</td>
</tr>
<tr>
<td>6-10</td>
<td>15</td>
<td>12.5</td>
<td>25.8</td>
</tr>
<tr>
<td>11-15</td>
<td>27</td>
<td>22.5</td>
<td>48.3</td>
</tr>
<tr>
<td>&gt;15</td>
<td>62</td>
<td>51.7</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>120</strong></td>
<td><strong>100</strong></td>
<td></td>
</tr>
<tr>
<td><strong>No Formal Education (0 years)</strong></td>
<td>57</td>
<td>47.5</td>
<td>47.5</td>
</tr>
<tr>
<td><strong>Primary Education (1 -6 years)</strong></td>
<td>41</td>
<td>34.2</td>
<td>81.7</td>
</tr>
<tr>
<td>(Secondary Education (7-12 years))</td>
<td>18</td>
<td>15.0</td>
<td>96.7</td>
</tr>
<tr>
<td><strong>Tertiary education (&gt; 12 years)</strong></td>
<td>4</td>
<td>3.3</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>120</strong></td>
<td><strong>100</strong></td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table 3, 47.5 percent of the respondents have no formal education, 34.2 percent have primary education or spent between 1-6 years in school. 15 percent have secondary education or have spent between 7-12 years in school. 33 percent of the respondents have tertiary training with more than 12 years in school.

3.1.5 Occupation of the Respondents

Table 3 shows the frequency distribution of respondents according to occupation. This distribution is broken down into primary and secondary occupations. Under primary occupation, 57.5% of the respondents are into full time arable crop farming; 34.2% are full time artisanal fishermen while 2.5% and 5.8% of the respondents are hunters and civil servants respectively. For secondary occupation, 65.8% of the respondents are fishermen who operate on part time basis. 27.5% of the respondents are crop farmers while hunting has the least percentage of 6.7. The mere fact that the larger proportion of the respondents are not full time fishermen is not unexpected, since the sample was drawn mainly from an area where majority of the people engage in arable crop farming during the flooding season and only return to fishing when they have free time between harvest and sowing of next crops.

### Table 3. Frequency Distribution of Respondents by Occupation

<table>
<thead>
<tr>
<th>Occupation</th>
<th>No of Respondents</th>
<th>Percentage (%)</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary Occupation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arable cropping</td>
<td>7</td>
<td>57.5</td>
<td>57.5</td>
</tr>
<tr>
<td>Civil service</td>
<td>69</td>
<td>5.8</td>
<td>63.3</td>
</tr>
<tr>
<td>Hunting</td>
<td>3</td>
<td>2.5</td>
<td>65.8</td>
</tr>
<tr>
<td>Fishing</td>
<td>41</td>
<td>34.2</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>120</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td><strong>Secondary (Minor) Occupation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arable cropping</td>
<td>33</td>
<td>27.5</td>
<td>27.5</td>
</tr>
<tr>
<td>Civil Service</td>
<td>8</td>
<td>6.7</td>
<td>27.5</td>
</tr>
<tr>
<td>Hunting</td>
<td>79</td>
<td>65.8</td>
<td>34.2</td>
</tr>
<tr>
<td>Fishing</td>
<td></td>
<td></td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>120</td>
<td>100</td>
<td>-</td>
</tr>
</tbody>
</table>

**Source:** Field Survey, 2018.

3.2 Fishing Activities of Respondents

The activities of respondents considered for this study include; fishing practices employed, storage facilities used, use of credit and extension services.

3.2.1 Fishing Practices Employed by the Respondents

Apart from the use of one, two or a combination of two or three fishing gears by the respondents, the use of a local plant extract called “Kuha” to daze fish was reported by some fishermen in the study area. The possession of several gears may probably be to enable fishermen switch over to a different gear due to change of season and fishing site of different vegetation cover. Table 4 shows that 55% of the respondents used a combination of three fishing gears of nets, hooks and traps. About 5.83% of the respondents also used a combination of plant extracts, nets and traps for fishing. Fishing with nets and traps has 24.17%, while fishing with nets alone has 7.5%, fishing with hooks and nets 6.67%. The least group practice fishing with hooks alone which has a percentage of 0.83. The high percentage of respondents using nets, hooks and traps is not unexpected as fisheries studies by Ezihe et al. (2013) indicate that they are common gears used by artisanal fishermen in tropical Africa.
3.3 Factors Influencing Artisanal Fishing

Several factors have been identified by this study to have influence on efficiency in fishing in the study area. Some of these factors include: labour, capital, agricultural credit, repairs and maintenance of fishing crafts/gears as well as running costs. These factors are quantifiable and the use of these factors by fishermen to attain their objectives depends on their ability to use, manipulate or maneuver them effectively (Agbugba, 2018). Operating costs were identified separately instead of grouping them as capital in order not to overestimate or underestimate the influence of capital on fish catch (output). This was necessary so as to identify the effect of each component on fishermen.

### Table 4. Cost and Return Analysis

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Total Quality Unit</th>
<th>Unit Cost</th>
<th>Total Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Revenue</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Revenue, 145.83kg</td>
<td>450</td>
<td></td>
<td>65,623.50</td>
</tr>
<tr>
<td>11 mandays</td>
<td>500</td>
<td></td>
<td>2,504.16</td>
</tr>
<tr>
<td>5 mandays</td>
<td>500</td>
<td></td>
<td>5,774.16</td>
</tr>
<tr>
<td>-</td>
<td>-</td>
<td></td>
<td>6,629.38</td>
</tr>
<tr>
<td><strong>Total 20,407.7</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Variable Cost</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Hired Labour</td>
<td></td>
<td></td>
<td>9,017.50</td>
</tr>
<tr>
<td>ii. Family Labour</td>
<td></td>
<td></td>
<td>17,183.79</td>
</tr>
<tr>
<td>iii. Crafts/Gear repairs and Maintenance</td>
<td></td>
<td></td>
<td>88.33</td>
</tr>
<tr>
<td>iv. Running Costs</td>
<td></td>
<td></td>
<td>512.50</td>
</tr>
<tr>
<td><strong>Total 26,802.12</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Profit = Total Revenue – Total Costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>= 65,623.50 – (20,407.7 + 26,802.12)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>= 65,623.50 – 47,209.82</td>
<td></td>
<td></td>
<td>18,413.68</td>
</tr>
<tr>
<td>Source: Field Data Analysis, 2018</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The findings show that the total average household value of fixed items of the enterprise is higher than the variable cost items. It accounted for ₦26,802.12 which is 56.77% of the total cost per fishing season. Household rent on fishing sites is the least cost item. A total of ₦512.50 was spent. This represents 1.08% of the total production cost. This low cost of household rent on fishing sites is due to the fact that most fishing activities in the study area are carried out on communal fish ponds. Household hired labour cost is higher than family labour cost in the enterprise. It accounted for ₦645,000 or 68.7% of the total labour cost per household. The high cost of hired labour may be due to the absence of sufficient family labour that may be engaged in other livelihood activities and hence the need to engage hired labour. The benefit cost ratio of the enterprise was determined to be 1.39. That means artisanal fishing in the study area is a profitable enterprise.

3.4 Effect of Socio-Economic Variables/Fishing Inputs on Output

The factors (variables) considered for this study include, labour (X₁), capital (X₂), operational cost (X₃), fishing experience (X₄) number of years spent in school by household head (X₅) and household size (X₆). These independent variables were regressed against output (the dependent variable). Three models namely; Linear, Semi-log and double-log were tried and based on the values of R², F-statistics and number of significant coefficients the double log function was chosen out of the three forms fitted to estimate the effects or contribution of these factors (variables) on output of artisanal fishing enterprise. Apart from having advantages of statistical properties over the other models, the double log function provided a means of obtaining coefficients for testing hypothesis. The regression results are presented in Table 5.
The regression results show that, the regressors combined are responsible for 66.7% of the variation in output due to these factors incorporated in the model. The remaining 33.3% are caused by other factors not included in the model. The entire equation measured by the F ratio (43.962) is significant at 0.5% probability level. This regression result also shows that the t-ratio (3.164) for labour ($X_1$) is significant at 5% level of probability. Capital ($X_2$) and operational costs ($X_3$) have t-ratio of (8.575) and (3.652) respectively and are significant at 5% level of probability. This suggest that these two factors are important determinants of quantity of fish catches. Fishing experience ($X_4$) have a t-ratio of (2.171) and significant at 5% level of probability. Thus fishing experience is directly related to the output of the enterprise.

Table 5. Regression Results of Effects of Variables on Output

<table>
<thead>
<tr>
<th>Variables</th>
<th>Linear</th>
<th>Semi-Log</th>
<th>Double-Log</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labour ($X_1$)</td>
<td>0.391</td>
<td>0.754</td>
<td>0.1746</td>
</tr>
<tr>
<td></td>
<td>(0.871)</td>
<td>(1.964)*</td>
<td>(3.164)*</td>
</tr>
<tr>
<td>Capital ($X_2$)</td>
<td>0.00176</td>
<td>102.453</td>
<td>0.325</td>
</tr>
<tr>
<td></td>
<td>(10.080)*</td>
<td>(0.454)</td>
<td>(8.575)*</td>
</tr>
<tr>
<td>Operating Cost ($X_3$)</td>
<td>0.0358</td>
<td>0.037</td>
<td>0.0560</td>
</tr>
<tr>
<td></td>
<td>(4.380)*</td>
<td>(3.921)*</td>
<td>(3.652)*</td>
</tr>
<tr>
<td>Fishing Experience ($X_4$)</td>
<td>0.014</td>
<td>0.058</td>
<td>0.016</td>
</tr>
<tr>
<td></td>
<td>(2.802)*</td>
<td>(2.167)*</td>
<td>(2.171)*</td>
</tr>
<tr>
<td>No of years spent in school ($X_5$)</td>
<td>7.234</td>
<td>0.056</td>
<td>0.0180</td>
</tr>
<tr>
<td></td>
<td>(1.854)*</td>
<td>(2.42)*</td>
<td>(2.703)*</td>
</tr>
<tr>
<td>Household size ($X_6$)</td>
<td>3.933</td>
<td>3.9035</td>
<td>0.0132</td>
</tr>
<tr>
<td></td>
<td>(0.639)</td>
<td>(1.277)</td>
<td>(1.508)</td>
</tr>
<tr>
<td>Constant R-Square Fcal.</td>
<td>54.49</td>
<td>121.35</td>
<td>0.285</td>
</tr>
<tr>
<td></td>
<td>0.49</td>
<td>0.528</td>
<td>0.667</td>
</tr>
<tr>
<td></td>
<td>124.245*</td>
<td>26.719*</td>
<td>43.962</td>
</tr>
</tbody>
</table>

Source: Field Data Analysis, 2018

Note*: Values in parenthesis in the regression equations are the t-value, and those with asterisk (*) are significant at 5% probability level. $R^2 = 66.7%$; $F$ – ratio = 43.962 (significant at 5% level)

Note**: Numbers in parenthesis are the significant t-values. The values asterised are significant at 0.05 probability level. The summary of the regression result is as follows.

Log $Y_1 = 2.285 + 0.1746 \log X_1 + 0.0325 \log X_2 + 0.056 \log X_3 + 0.016 \log X_4 + 0.018 \log X_5 + 0.0132 \log X_6$

(1.762) (3.164) * (8.575)* (3.652)* (2.171)* (2.703)*

(1.508)

This result is not surprising because fishing experience appears to be an important human capital for increasing fishing productivity. Number of years spent in school by household heads ($X_5$) has a t-value of 2.703. The t-value is statistically significant at 5% level. This suggests that number of years spent in school is directly related to the output of fishermen. Formal education will facilitate the keeping of proper fishing records, ability to read and write instructional materials and effectively communicate with extension agents. This will give fishermen the knowledge of how to use their inputs effectively. Household size ($X_6$) has a t-value of 1.508. The positive sign of coefficient suggest that the output of fishermen and their household size are moving in the same direction. The t-value is however not significant at 5% level. This suggests that an increase in the available labour source from household members will not necessary facilitate output increase. The results show that labour, capital, and operational funds are important determinants of quantity of fish caught. Thus, the null hypothesis ($H_0$) is rejected and the correspondence alternative hypothesis ($H_1$) accepted.
3.5 Constraints to Exploitation of Natural Fishing Sites

The study identified several constraints militating against the full exploitation of the potentials associated with natural fishing sites in the study area. These constraints as listed by the respondents in their multiples include: high cost of fishing gears, lack of credit facilities, low income arising from poor fish catch, high cost of processing/storage facilities, pilfering of set nets/traps, inability to construct/fix nets and traps, inability to maneuver/handle gears effectively, lack of modern storage facilities, absence of processing facilities such as kilns, depletion of fish stocks as a result of destruction of aquatic life by use of toxic chemicals and absence of extension services. The fishery sector is affected by these constraints, which increase fishers’ vulnerability and negatively impact on their livelihoods through income and profit reduction. During analysis of data, the numbers of fishermen affected by each constraint were calculated and the percentages of respondents presented in Table 6.

Table 6. Frequency Distribution of Constraints Associated with Artisanal Fishing in the Study Area

<table>
<thead>
<tr>
<th>S/No</th>
<th>Constraints</th>
<th>No of Fishers Being Affected by Each Constraints</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>High cost of fishing gears</td>
<td>116</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>Lack of credit facilities</td>
<td>108</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>Low income from poor catch</td>
<td>94</td>
<td>100</td>
</tr>
<tr>
<td>4</td>
<td>High cost of processing/storage</td>
<td>112</td>
<td>100</td>
</tr>
<tr>
<td>5</td>
<td>Pilfering of set nets/traps</td>
<td>32</td>
<td>100</td>
</tr>
<tr>
<td>6</td>
<td>Inability construct/fix nets and traps</td>
<td>99</td>
<td>100</td>
</tr>
<tr>
<td>7</td>
<td>Inability to maneuver/handle gears effectively</td>
<td>36</td>
<td>100</td>
</tr>
<tr>
<td>8</td>
<td>Lack of storage facilities</td>
<td>104</td>
<td>100</td>
</tr>
<tr>
<td>9</td>
<td>Lack of processing facilities</td>
<td>113</td>
<td>100</td>
</tr>
<tr>
<td>10</td>
<td>Depletion of fish stocks</td>
<td>118</td>
<td>100</td>
</tr>
<tr>
<td>11</td>
<td>Absence of extension services</td>
<td>120</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Survey Analysis, 2018
Note: Multiple Responses

4. Conclusion

Findings from the research work indicated that the output of individual fishing households is positively associated with all the independent variable factors of capital, labour, operating costs, fishing experience, number of years spent in school by household heads and household size. The outcome of this study also shows that farmers do not receive adequate extension service which should have exposed them to better fishing techniques. The study also revealed that most respondents have no access to credit facilities to enable them procure fishing crafts and gears whose prices have gone beyond the reach of an average fisherman. The absence of these fishing equipment may have forced most people to abandon fishing for occupations that require very low input requirements.

4.1 Recommendations

Artisanal fisheries play a very important role in the reduction of poverty, unemployment and protein malnutrition as well as conservation of foreign exchange and provision of livestock feeds. Considering the immense benefits that can be derived from sustainable exploitation of the nation’s water bodies, the following recommendations are hereby made based on the findings of this study:

(i) In order to increase the literacy level of the area where about 47% of the population have no formal education, policy makers should incorporate adult or nomadic education for fishing communities in the area. This will boost fishery development in the area as more people will be able to read fishery bulletins, technical papers and 64 extension guides on sustainable exploitation of fishery resources and thus increase efficiency.
(ii) Financial institutions should grant more credit facilities to practicing fishermen. Collaterals for accessing such credit should be made easy by allowing prominent traditional rulers and religious leaders to act as guarantors for securing such loans.

(iii) Results from the study indicate that artisanal fishing is viable and profitable enterprise capable of providing employment opportunities in the rural communities. Government organs responsible for fishery development should promote the development of both artisanal and aquaculture so as to meet the fish demand supply deficit in Nigeria. This will generate supplementary income, diversification of livelihood activities and generation of employment opportunities as many people will return to full time fishing as against the current practice where most fishing activities occur within few months of between January to May every year. Off season production will be put in place for continued supply of fish.

(iv) In order to increase family labour supply and probably the level of education of the fishing communities, there is need to provide more infrastructural facilities such as schools in these remote fishing communities so as to reduce the rural-urban migration which adversely affected the labour supply in the area.

(viii) Government should provide subsidy or fishing gears to cushion off the effect of high cost of fishing crafts and gears as one of the factors militating against effective exploitation of fishing resources in the country.

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DESIGN OF THE SUPPLIER BASE BY USING SUPPLIER REDUCTION AND MATERIAL GROUP MANAGEMENT

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Abstract

Due in part to the very high proportion of value creation at suppliers outside of the company, especially in the case of manufacturing companies, the development of the company is strongly influenced by them. Suppliers are increasingly involved in processes of their customers or even take over processes by themselves. As a result, the management of supplier relationships through purchasing is important. In particular, it is necessary to be able to use alternative suppliers when they are needed. Targeted Supplier Reduction and sustainable Material Group Management can contribute to increasing efficiency and designing the Supplier Base. For this reason, the importance and activities with regard to the reduction or optimization of the number of suppliers as well as the importance of Material Group Management are investigated. The result is that purchasing has to implement the diverse requirements of the own company by using a suitable supplier structure and in doing so making value contributions. Material Group Management supports this because the purchasing strategy can be broken down in a targeted manner and implemented sustainably. The reduction and optimization of the number of suppliers can thus also be implemented. However, the topic of Supplier Reduction has a sustainable character compared to the realization of cost reductions. It is more important for purchasing to have alternative supply partners at all times to achieve priority goals.

Keywords: Material Group Management, Sourcing Strategies, Supplier Base, Supplier Reduction, Value Added.

1. Introduction

The management of suppliers and of material groups has become increasingly important in recent decades, as companies have focused more on their core competencies and shifted value creation to suppliers in order to generate higher value contributions and to shift risks in parallel (Hofbauer et al., 2015, p. 3). According to information from the Federal Statistical Office in Germany, the share of material consumption including merchandise and wage labor in the gross production value in manufacturing is on average 58.0% and in mechanical engineering 53.9% (Federal Statistical Office, 2018, p. 278 & p. 301). The cost of materials thus represents the largest cost block in the manufacturing industry, from which the necessity of an efficient and systematic Supplier and Material Group Management is derived.

The objective of this study is to identify the importance of Supplier Reduction and Material Group Management activities by purchasing in order to create Value Added for the company. For this purpose, a written survey with involvement of purchasing representatives who have many years of experience was conducted in manufacturing companies. The high share of Value Added provided by suppliers underpins the importance of Material Group Management. On the other side, Supplier Reduction has only the character of a secondary strategy.

This paper consists of five sections. Section 1 explains the importance and possibilities of Supplier and Material Group Management and the structure of the paper. Section 2 discusses not only the design of the Supplier Base, but also aspects concerning Supplier Reduction activities and Material Group Management. Section 3 describes the structure and realization of the written survey as well as the objective with regard to the findings from the respective questions. Section 4 explains the results of the survey and graphs them. This paper concludes with Section 5 - with conclusions and derivations - from the respective findings.
2. Design of the Supplier Base

Suppliers are the highest 'good' of purchasing (cf. Lechner, 2017, p. 172) and thus an essential part of a functioning Supplier and Material Group Management. However, the requirements for suppliers may vary depending on the objectives.

In some cases, suppliers are needed to deliver 'simple parts', and the focus of these partners tends to be highly cost-driven. In addition, suppliers may only be used as 'extended workbenches' to absorb capacity peaks or support the own production. In both cases, therefore, the use of design and development capacities does not play a decisive role. In addition to the cost-oriented focus, it is basically only necessary for the suppliers to control quality and delivery performance.

It is different for complex assemblies and components that may be procured explicitly from external supply partners, because specific know-how in the own company is not sufficiently available, because necessary intellectual property rights are to be considered, because risks like technical development success or for reasons of product liability, are to be distributed over several shoulders, and to identify innovative suppliers (Wagner, 2009, p. 8) or to acquire innovations (Winter, 2014, p. 46; Monczka et al., 2011, p. 30; cf. Bessant & Phillips, 2013, pp. 358f.; cf. Bower & Christensen, 1995, pp. 43ff.). Usually, these partners are involved in the procurement and development process at an early stage, so that they can support with ideas and suggestions and thus contribute actively to cost or risk reduction. The later the integration takes place, the more difficult it becomes due to the advanced process of considering the corresponding inputs. Independent of this, these suppliers are also required to comply with the quality and delivery performance agreed with the company, possibly with a longer order preview, framework or special logistics agreements.

When designing the Supplier Base, it is equally important whether the supplier is to be considered for small quantities or for large series deliveries and consequently more manual or automated manufacturing and assembly processes are required. This criterion is a clear requirement that shows very quickly whether a supplier is suitable or not. If possible, the volume of a supplier should be on a scale that is not critical. This means that, if possible, the share is on the one hand not more than 30% to 40%, but on the other hand not negligible, in order to be taken seriously as a customer in any case and to be important for the supplier. Otherwise, it is difficult to enforce requirements (cf. Hess, 2008, p. 216).

Within the scope of supplier search, identification and selection (cf. Roodhooft & Konings, 1996, pp. 97ff.) by own research or supplier self-assessment (Hofbauer et al., 2015, pp. 16f.; cf. Faust & Yang, 2012, pp. 88f.), each including visit of the supplier on site, this must be found out, so that according to the requirements and the appropriate supply partners can be found and determined (cf. Hofbauer et al., 2015, pp. 12ff.). Not only the supplier has to fit the customer, the customer also to the supplier.

For the listed reasons, it is the case that in the manufacturing industry the supplier structure is consisting of small, medium and large partners, which have different strengths and can thus be used precise for the various requirements. In turn, it can be derived that it is not possible to achieve optimal value contributions only with suppliers from one of these segments.

2.1 Supplier Reduction Activities

For companies with a high number of suppliers, Supplier Reduction is another way to generate additional value. In practice, the situation is often found that few buyers have to deal with a large number of suppliers. The A- and B-suppliers are given intensive support; ordinary support is often not possible with other suppliers for capacity reasons. Thus, a part of the purchasing volume remains largely unprocessed from a strategic perspective. Wagner (2003, p. 702) uses the example of various American companies to show that the number of suppliers could be reduced by up to 90%. However, the question of the optimal number of suppliers cannot be assessed constructively and in detail at the company level, but rather at the level of the material group or, if necessary, even at the item number level (Hess, 2008, p. 211; Appelfeller & Buchholz, 2011, p. 122). The optimal number of suppliers within a material group is influenced by internal and external factors, which have to be examined on a case-by-case basis, e. g. the level of purchasing volume and the supply situation, the competitive environment and the number of existing suppliers on the market (Droege & Comp., 1998, pp. 66f.).
Nevertheless, in addition to the focus on individual material groups or item numbers, the reduction in the number of suppliers at company-wide level is also important (cf. Homburg, 2002, pp. 181ff.). The controlling instrument for this can be a supplier rating system, a preferred list of suppliers or the strong use of framework contracts in operational execution. However, the optimal number of suppliers of a company ultimately depends on the range of parts and assemblies required (Appelfeller & Buchholz, 2011, p. 122).

The type of cooperation with suppliers has a high influence on the willingness of both sides to invest, possibly represents a risk protection and has a direct impact on the commitment to implement efficiency improvement potentials. Therefore, it is important to deal with the right partners and topics as well as opportunities in the sense of an increase in Value Added. In this context, a differentiation is also made between active and passive suppliers, which may not have been used for a long time, but are present in the systems in the sense of 'nominal members'. These suppliers as well as any existing duplicates should be deleted from the systems and thus from the supplier lists, because it unnecessarily complicates the work of purchasing (Appelfeller & Buchholz, 2011, p. 122). Nevertheless, in practice, the issue of Supplier Reduction is for capacitive reasons often of secondary importance.

Key figures such as the number of active suppliers as well as the amount of purchasing volume of a supplier in a region or material group can be used to actively optimizing the number of suppliers (Appelfeller & Buchholz, 2011, p. 189). With regard to optimization approaches in the design of the Supplier Base, in particular the following, highly logistical possibilities should be considered:

- C-parts management: Due to the low value of the parts, the focus here is on the optimization of process costs; in addition to the separation of C-parts procurement, possibly including decentralized responsibility, or the use of e-procurement solutions, outsourcing to a specialist is also an option (Wannenwetsch, 2014, pp. 37ff.; Droge & Comp., 1998, pp. 69f.).
- Set of parts: To reduce the processing effort, articles are combined into a logistic unit; this increases the value or importance of the group and, in addition, reduces interfaces with suppliers (Nyhuis & Eilmann, 2011, p.104).
- Product order systems (parts families, modular strategy, common parts, module, system and platform strategies): By applying these strategies, product structure analyzes can reduce complexity throughout the company, accelerate standardization and thus reduce the variety of parts overall (Zifkovits, 2013, pp. 330ff.).

### 2.2 Material Group Management

Material Group Management is an important tool for purchasing (Rüdrich et al., 2004, pp. 13ff.) in order to achieve additional Value Added and must therefore be a fixed pillar of the purchasing strategy. Not only the much better overview of the total purchasing volume, but in particular bundling and standardization activities can be initiated from the classification (cf. Lechner, 2011, p. 150). Purchasing can work so much more focused and efficient, which in turn means that purchasing departments that classify the purchasing volume into material groups usually align their organization accordingly (cf. Hess, 2008, p. 232 & p. 334). Purchaser can build up specific material group know-how, have more time for strategic tasks, and can negotiate cumulative needs with suppliers (cf. Gabath, 2010, pp. 99f.).

The Material Group Management can thus fertilize one another with the Supplier Management. Basically, Material Group Management is 'above' Supplier Management, because it is the basis for the strategies that are implemented with the suppliers. The quality of the suppliers is therefore crucial with regard to the implementation of the strategies. In particular, therefore, supplier classification is important for Material Group Management, which focuses on both technical and economic issues. As a result, suppliers are usually selected at material group or material number level. Supplier qualification and development (cf. Wagner & Krause, 2009, pp. 3161ff.) is part of the process that ensures that all the supplier's requirements for successful series delivery, process and regulatory requirements are met. In regular supplier audits, the respective status quo is checked (cf. Appelfeller & Buchholz, 2011, pp. 126f.).

The activities of the Material Group Management are influenced in particular by the potentials which are in the material groups (cf. Rüdrich et al., 2004, pp. 18f.). The most important indicators are
the purchasing volume, the degree of standardization of the components, the competitive environment and the number of existing suppliers.

Usually, the greatest potentials are expected in the material groups with the highest purchasing volumes. These mainly contain strategic, particularly valuable components and assemblies, most of which are already handled by A-suppliers. Basically, the statement is here that in the work with large suppliers, an adequately high effort is to be put, because it contains the greatest opportunities and risks in terms of Value Added.

The procedures are very different, depend on opportunities and risks and are strongly influenced by tender, which have to be carried out cyclically. Usually, the fastest results can be achieved if only purchasing parameters and no changed specification are tendered and negotiated. But with the call for tenders without optimization of the specification, the best results are not achieved if the suppliers are offered no further economies of scale for cost reduction, such as technical standardization or simplification of assemblies. This approach aims at sustainable cost reductions and provides even better arguments for purchasing, but in advance causes higher expenses in the own organization. This includes, for example, the revision of functional specifications by technology, adjustments to optimize logistics including the production process by the respective departments or make-or-buy decisions (cf. Rüdrich et al., 2004, pp. 25ff.), which must also be decided cross-functionally from the participating functions under holistic aspects.

Nevertheless, purchasing tends to get the best argument for gaining additional value from the competition of potential suppliers in the market, which is built by the companies’ purchasing departments to have substitution opportunities and thus alternatives within the supplier portfolio. The use of competition combined with bundling and standardization activities and the consistent promotion of value-analytic measures will ultimately lead to the best solutions (cf. Appelfeller & Buchholz, 2011, p. 136 & pp. 140 ff.).

The Supplier Management is responsible for the quality of the suppliers and thus the basis for a successful Material Group Management. This in turn establishes it in the company as part of the strategy of purchasing. The value contributions come from the suppliers, but can be strongly influenced by sustainable Material Group Management.

3. Data and Methodology

The research aims to investigate the importance of Supplier Reduction and Material Group Management in order to design the Supplier Base and to create Value Added for the company. The study was conducted between August and November 2017. A total of 628 companies were contacted in writing via a standardized and structured questionnaire. The contact was made by email, LinkedIn or personal delivery. 68 questionnaires were answered, which corresponds to a response rate of 10.8%.

In order to receive qualified feedback, explicitly experienced purchasing representatives, some of them from middle or higher management, were addressed. In addition, it must be clear that the company belongs to the manufacturing sector. This industry focus has been chosen because the requirements of different industries sometimes differ greatly. The classification or branch is carried out according to the definition of the main industrial groups of the European Community (Commission of the European Communities, 2007, pp. 4ff.). Furthermore, due to the query of the sales figures or the purchasing volumes, a different behavior between small and medium-sized enterprises (SMEs) and groups may be derived. The definition of SMEs is based on the Recommendation of the European Union (Commission of the European Communities, 2003, p. L 124/39), which was also based on the Institute for SME Research Bonn in terms of turnover; the further gradations are determined on the basis of personal experience. The purchasing volume is based on an average material quota of 50% and is classified analogously to sales. However, it is highly industry-dependent. The question of connecting purchasing within the organization allows conclusions to be drawn about the strategic importance and classification of the purchase.

The purchasing agents participating in the survey have 80.9% of purchasing experience of more than ten years. 77.9% have completed a study. 82.4% of the participants in the respective companies stated that they held a managerial position. Of the participating companies, 72.1% were in the industrial goods sector (66.2% of the companies were mechanical engineering alone) and 14.7% were in the intermediate goods sector. 94.1% of the companies generate a turnover of less than € 5.0 billion
and at 97.1% the purchasing volume is less than € 2.5 billion. For 97.1% of the companies, purchasing is linked to the Executive Board, the Management Board or C-Level or represented therein.

The aim of this study is to gain insights into the importance of Supplier Reduction activities and the classification of suppliers. Likewise, the Sourcing Strategies should be considered because they are closely related to the number of suppliers and, moreover, to Material Group Management. For this reason, the survey includes separate questions about Material Group Management.

4. Results from the Survey

4.1 Supplier Reduction & Optimization of the Number of Suppliers

This section aims to find out how the topic of 'Supplier Reduction' is promoted in the respective companies. Likewise, the Sourcing Strategies applied in the companies are to be determined. Corresponding findings should be derived from the statements.

The first results of the investigation relate to the significance of the topic of 'Supplier Reduction' in companies as well as to the classification of suppliers. It had to be chosen on a scale from 1 (no importance) to 10 (very high importance). Overall, 19.0% of the participants rated the importance as high to very high. At 39.7% it is stated as medium and in 41.4% as low to very low. The average is 4.79. With regard to supplier classification, it is stated that 10.1% are classified as A-suppliers, 19.6% as B-suppliers and 43.3% as C-suppliers. The rest is classified as 'other suppliers'.

In addition, 54.8% of companies indicate that activities related to supplier number optimization have started or have already been agreed. Accordingly, the greatest importance is the increased cooperation with preferred suppliers (88.2%) as well as common parts and platform strategies (70.6%), followed by the development and expansion of C-parts management (67.6%). The active phasing out of suppliers follows in fourth place with 61.8% before passive phasing out (54.5%) and active phasing out of suppliers only for serial needs (47.1%). All other activities are much weaker. Increased single sourcing is lagging behind and, at 17.6%, has low importance. Figure 1 shows the corresponding activities.

![Importance of Supplier Reduction Activities](image)

**Figure 1. Importance of Supplier Reduction Activities**

With regard to the future number of suppliers, it was stated that the number should be reduced by a total of 27.4%. The reduction target is distributed among A-suppliers (-5.2%), B-suppliers (-11.8%), C-suppliers (-29.1%) and other suppliers (-46.3%). A further concentration of the purchasing volume is thus the goal. Only one small and medium-sized enterprise (SME) has indicated that it intends to increase the number of suppliers by 10.0%.

When asked about the Sourcing Strategies used, global sourcing (60.3%) - the largest cost-cutting program of all time - ranked first. Regional sourcing ranks second with 57.4%, ahead of dual sourcing (55.9%), sourcing of components and raw materials (54.4%) and multiple sourcing (47.1%). The
further Sourcing Strategies follow with a larger distance. Forward sourcing is penultimate with only 16.2% and sole sourcing is expected to lag behind with 4.4%. The details are shown in Figure 2 below.

![Figure 2. Importance of Sourcing Strategies](image)

4.2 Importance of Material Group Management

The classification of the purchasing volume can support the process of implementing the purchasing strategy in a clear and transparent manner. In many places, the purchasing departments are therefore organized according to material groups or product groups, from which in turn the respective supplier strategies per material group or product group can be derived.

In total, 86.9% of the companies stated that they were classifying their purchasing volume; only a few small companies do not do that. 86.8% of the companies use a self-developed and experience-based classification; 7.5% classified by eClass. At least 30.2% of the companies have done careful considerations of the future supplier structure and want to manage more conscious.

The following Figure 3 shows the importance of the advantages from the classification of the purchasing volume by material groups. The greatest importance is attached to a better overview of the purchasing volume and the recognition of bundling potentials with 86.8% each as well as the identification of cost reduction potentials (84.9%). The benefits from the classification are rated very high with an average of 79.5% overall.

![Figure 3. Benefits of Classifying Material Groups](image)
5. Conclusion

The high share of Value Added in the manufacturing industry, which is provided externally by suppliers, underpins the importance of Supplier and Material Group Management, which is mutually beneficial. Purchasing must find the best suppliers for the company in order to generate the highest Value Added.

In particular, it is the task of the purchasing department to cover the diverse requirements in the own company by using an adequate supplier mix and, in addition, to know or correctly assess the abilities of the respective suppliers. This is why 'preferred suppliers' have been defined, with whom it is possible to work together for many years and without great surprises. For the same reason, Material Group Management has prevailed and is implemented in almost all companies in the manufacturing industry. Thus, the purchasing strategy can be broken down to the respective material group and implemented in a targeted manner. The number of suppliers can be reduced and optimized on this basis, depending on the Sourcing Strategy used. However, Supplier Reduction has the character of a secondary strategy that is lived when it can be implemented without much effort in bundling.

It is obviously more important for purchasing that cost optimization can be achieved through global sourcing or regional sourcing. This is where purchasing is primarily measured and can make a value contribution. However, the possibilities of forward sourcing are still underused in this context. Furthermore, purchasing prefers to have alternative suppliers available rather than single sourcing or even sole sourcing.

References


Abstract

In this study, financial performances of SMEs that listed in the BIST SME Industrial Index are evaluated by using TOPSIS multicriteria decision making method. The data of the study acquired from annual financial statements that reported between 2016-2018 period. Financial performance ranks of SMEs are determined for each year and thus comparative financial performances of SMEs are detected.

BIST SME Industrial Index is an index includes stocks of industrial SMEs traded in BIST Stars, BIST Main and BIST Emerging Companies markets. SMEs have great importance for Turkish economy, with their dynamizing roles and with their crucial roles in the regional development and job creation. According to the Turkey Statistical Institute data, Turkish SMEs constitute 99.8% of all enterprises in Turkey. At the same time Turkish SMEs provide 72.7% of total employment, 62% of total sales and 58% of total investments of Turkish Economy.

Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) is one of the multicriteria decision making methods that commonly used in the evaluation of financial performances of firms. The TOPSIS method is based on two main points: the positive ideal solution and the negative ideal solution. With the help of the TOPSIS method, the distances positive ideal solutions and negative ideal solutions of all options are calculated. Options are ranked according to their proximity to the positive ideal solution and their distance to the negative ideal solution.

Keywords: SME, Financial Performance, TOPSIS, Multicriteria Decision Making, BIST SME Industrial Index.

1. Introduction

SMEs (Small and Medium-Sized Enterprises) are among the most important elements of economic life with their contributions to employment and their structures that can easily adapt to changes. In all national economies, more than 70% of firms are SMEs and in most countries more than 90% of firms are SMEs (OECD, 2017). As awareness of the importance of SMEs in the economy increases, governments and international organizations are increasing their policies to support SMEs. In this context, Borsa İstanbul has decided to establish SME Industry Index and BIST SME Industry index started to be calculated as of December 2013.

Financial performance is a result-oriented type of business performance based on the use of financial indicators of firm, reflecting the degree of fulfillment of economic objectives of firm (Başdar, 2019). Evaluation of the financial performance of SMEs is of great importance for the owners, investors, lenders and other stakeholders. In this respect, multi-criteria decision making methods that allow comparative measurement of different alternatives are among the methods used extensively in the measurement of financial performance of firms.

TOPSIS was developed by Hwang and Yoon in 1980 and is a multi-criteria decision-making method that has been applied in many different areas from firm performance measurement to car
selection. In the Topsis method, two values called positive ideal solution and negative ideal solution are calculated. The different alternatives are ranked according to their proximity to the positive ideal solution and their distance to the negative ideal solution (Özbek, 2017).

2. Literature Review

Bakırcı, Eslamian Shiraz and Sattary (2014) have determined the financial performance of 14 companies in the Iron and Steel Industry main industry sector between the years 2009-2011 by using TOPSIS and DEA (Data Envelopment Analysis) multi-criteria decision making methods. They used Data Envelopment Analysis super efficiency and TOPSIS methods to determine the performance rankings of the firms that they determined their relative efficiency levels by DEA. Although they attained approximate firm financial performance rankings, financial performance rankings they determined with using TOPSIS and DEA methods are not exactly same.

Özçelik and Kandemir (2015) have determined the financial performance of 7 tourism companies traded on BIST between 2010 and 2014 by using the financial ratios of the firms as a basis for the TOPSIS method.

Sakarya and Akkuş (2015) analyzed the financial performance of cement companies traded in BIST between the years 2010-2013 using TOPSIS method. They analyzed firm financial performance firstly by using traditional financial ratios and then by using cash flow ratios. As a result of the study, differences are detected between the results obtained according to traditional financial ratios and the results obtained according to cash flow rates.

Akbulut and Coşkun (2015) determined the financial performances of 32 manufacturing companies traded on BIST between 2010 and 2012 by TOPSIS method and analyzed the correlation between the companies’ market value/book value ratios and companies’ TOPSIS scores. As a result of the study, they found that there is no statistically significant relationship between the stock market performances determined by using market value/book value ratios and the financial performances determined by TOPSIS method.

Akgün and Soy Temür (2016) determined the financial performances of 2 airline companies registered in BIST transportation index between 2010 and 2015 using TOPSIS method.

İlkuçar and Çifçi (2016) evaluated financial performances of 6 electric generation companies for 2015 by using TOPSIS method.

Aytékin and Karamaşa (2017) analyzed financial performances of 6 insurance companies traded in BIST by using 6 financial indicators within the period of 2011-2015. They obtained financial performances rankings of 6 insurance firms by using fuzzy (shannon’s entropy based) TOPSIS method.

Balcı (2017) examined financial performances of 27 public hospitals between 2014 and 2015 by using TOPSIS method. As a result of the study, significant differences were observed among financial performances of public hospitals by year.

Metin, Yaman and Korkmaz (2017) determined the financial performance of 11 energy companies traded in BIST between 2010 and 2015 by using TOPSIS and MOORA methods and compared the performance rankings obtained in both methods.

Orçun and Eren (2017) financial performance of technology companies traded on BIST between 2010 and 2015 analyzed by using TOPSIS method. In addition, financial performance rankings and stock exchange returns rankings of the companies for the relevant periods were analyzed and no significant relationship could be determined.

Kayalı and Aktaş (2018) examined the financial performances of firms in the automotive sector traded on BIST between 2010 and 2015 using TOPSIS method. As a result of the study, they were determined that some companies have maintained their place in financial performance rankings and some companies have changed their place in the rankings year to year.

Özçelik and Küçükçakal (2019) analyzed the financial performance of financial leasing and factoring companies traded in BIST between 2009 and 2016 by TOPSIS method. They used the liquidity, activity and profitability ratios of the companies as criteria in TOPSIS method.
3. Data and Methodology

Financial ratios of 42 firms listed in the BIST SME Industrial Index between 2016-2018 years are used as decision criteria of TOPSIS analysis. Three main financial ratio group are selected as decision criteria; liquidity ratios, turnover ratios and profitability ratios. Annual financial reports of 42 firm are obtained from website of the Public Disclosure Platform (kap.gov.tr) and financial ratios are calculated for each firm and year. The financial ratios used in this study were selected through literature review. The list of financial ratios are shown at table 1:

<table>
<thead>
<tr>
<th>Group of Financial Ratios</th>
<th>Selected Ratio</th>
<th>Calculation Formula of The Selected Ratio</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquidity Ratios</td>
<td>Current Ratio</td>
<td>Current Assets/Current Liabilities</td>
<td>CuR</td>
</tr>
<tr>
<td></td>
<td>Acid-Test Ratio</td>
<td>Current Assets-Inventories / Current Liabilities</td>
<td>AcTR</td>
</tr>
<tr>
<td></td>
<td>Cash Ratio</td>
<td>Cash+ Marketable Securities / Current Liabilities</td>
<td>CaR</td>
</tr>
<tr>
<td>Turnover Ratios</td>
<td>Accounts Receivable Turnover Ratio</td>
<td>Net Sales / Average Accounts Receivable</td>
<td>ARTR</td>
</tr>
<tr>
<td></td>
<td>Inventory Turnover Ratio</td>
<td>Cost of Good Sold/Average Inventory</td>
<td>ITR</td>
</tr>
<tr>
<td></td>
<td>Total Asset Turnover Ratio</td>
<td>Net Sales / Total Assets</td>
<td>TATR</td>
</tr>
<tr>
<td>Profitability Ratios</td>
<td>Net Profit Margin</td>
<td>Net Income / Sales</td>
<td>NPM</td>
</tr>
<tr>
<td></td>
<td>Return on Equity</td>
<td>Net Income / Average Shareholder’s Equity</td>
<td>ROE</td>
</tr>
<tr>
<td></td>
<td>Operating Profit Margin</td>
<td>Operating Earnings / Revenue</td>
<td>OPM</td>
</tr>
</tbody>
</table>

Liquidity ratios are the ratios that reveal the ability of a firm to pay its current assets and overdue (short-term) debts. Turnover rates are the ratios that show how effectively firms use their assets. Profitability ratios indicate the effectiveness of the firm in terms of profit making in the operating period (Okka, 2009).

With TOPSIS method, alternatives are sorted according to certain criteria. The topsis method has 6 steps (Özdemir, 2015; Özbek, 2017):

Step 1 is the formation of the decision matrix. The decision matrix is a matrix of decision criteria and factors. It can be shown as follows:

\[
A_{ij} = \begin{bmatrix}
    a_{11} & a_{12} & \ldots & a_{1n} \\
    a_{21} & a_{22} & \ldots & a_{2n} \\
    \vdots & \vdots & \ddots & \vdots \\
    a_{m1} & a_{m2} & \ldots & a_{mn}
\end{bmatrix}
\]

Step 2 is the creation of a normalized matrix. After squaring each ai value in the decision matrix, the square root of the sum of squares is taken for each criterion. After taking the square root of the sum of the squares of the data on the basis of criteria, each data is divided by the square root of the sum of the squares of the data of the criteria to which it belongs, and the normalization matrix is completed.
Evaluation of Financial Performances of SMES...

\[ r_y = \frac{\sigma_y}{\sqrt{\sum_{i=1}^n \sigma_i^2}} \]

Step 3 is the creation of a weighted decision matrix. The weights of the evaluation criteria \( w_i \) are determined. The sum of all weights must be equal to 1. The weighted decision matrix is generated by multiplying the data of the criteria by the weights of the criteria.

\[
V_j = \begin{bmatrix}
    w_1r_{11} & w_2r_{12} & \ldots & w_nr_{1n} \\
    w_1r_{21} & w_2r_{22} & \ldots & w_nr_{2n} \\
    \vdots & \vdots & \ddots & \vdots \\
    w_1r_{m1} & w_2r_{m2} & \ldots & w_nr_{mn}
\end{bmatrix}
\]

Step 4 is to obtain ideal and negative ideal solution values. After obtaining the weighted decision matrix, maximum values of positive criteria and minimum values of negative criteria are determined and ideal solution values are found. Negative ideal solution values are obtained by determining minimum values of positive criteria and maximum values of negative criteria. Ideal and Negative Ideal solutions are expressed in the following formulas:

\[
A^* = \left\{ (\max_{i,j} v_{ij} | j \in J), (\min_{i,j} v_{ij} | j \in J) \right\} \quad A^- = \left\{ (\min_{i,j} v_{ij} | j \in J), (\max_{i,j} v_{ij} | j \in J) \right\}
\]

Step 5 is to obtain the distance from ideal and non-ideal points. In the TOPSIS method, the Euclidean distance is used to calculate the distance to ideal and non-ideal points. Euclidean distance is calculated by the following formulas:

\[
S_j^+ = \sqrt{\sum_{i=1}^n (v_{ij} - v_{ij}^*)^2} \quad S_j^- = \sqrt{\sum_{j=1}^n (v_{ij} - v_{ij}^*)^2}
\]

Step 6 is the calculation of the proximity to the ideal solution. The ideal and negative ideal discrimination measures are used to calculate the proximity of each decision point to the ideal solution, and shows the absolute closeness of the respective decision point to the ideal solution, and the absolute proximity of the relevant decision point to the negative ideal solution. The relative proximity to the ideal solution is calculated by the following formula:

\[
C_j^* = \frac{S_j^-}{S_j^- + S_j^+}
\]

4. Results and Discussion

Firstly, the selected financial ratios of 42 firms included in the BIST SME industry index between 2016-2018 were calculated. As an example of the calculated financial ratios, the financial ratios for 2018 are given in the table 2.
M. S. Kaya, S. Kendirli and M. Bilgin

BURCE.E

BURVA.E

CMBTN.E

DAGI.E

DENCM.E

DIRIT.E

DITAS.E

DOBUR.E

1,09
0,80
0,15
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-0,05
0,04

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-0,08
0,08

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0,00
-0,01
0,05

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0,14
0,03
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-1,23
-0,86
-0,88

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CuR
AcTR
CaR
ARTR
ITR
TATR
NPM
ROE
OPM

0,32
0,10
0,01
1,83
5,24
0,20
-0,51
-0,25
-0,38

CuR
AcTR
CaR
ARTR
ITR
TATR
NPM
ROE
OPM

9,73
8,22
0,58
4,52
5,79
0,86
0,02
0,02
0,06

CuR
AcTR
CaR
ARTR
ITR
TATR
NPM
ROE
OPM

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27,19
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RTALB.E

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SAMAT.E

KRSTL.E

IZTAR.E

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VANGD.E

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0,10

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GEDZA.E
POLTK.E

OZRDN.E

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4,79
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0,23
0,15

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0,09
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OYLUM.E

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SANFM.E
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MEGAP.E

MERKO.E

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0,00
0,00

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0,77
-0,08
-0,22
-0,02

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ERSU.E

DOGUB.E
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0,47
0,04
0,05
0,04

MAKTK.E

BRMEN.E

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3,23
3,09
0,40
0,13
0,07
0,14

FORMT.E

BRKSN.E

CuR
AcTR
CaR
ARTR
ITR
TATR
NPM
ROE
OPM

EMKEL.E

BNTAS.E

Table 2. Financial Ratios for 2018 of 42 SME Listed in BIST SME Industry Index

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1,39
23,92
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0,00
-0,02
0,09


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<th>TOPSIS Score</th>
<th>Sector</th>
</tr>
</thead>
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<td>4</td>
<td>Çimbeton Cement</td>
<td>0.514</td>
<td>Stone Soil Based</td>
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<td>5</td>
<td>Politeknik Metal</td>
<td>0.508</td>
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<tr>
<td>6</td>
<td>Mega Polyethylene Foam</td>
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<td>Seyitler Chemistry</td>
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<td>9</td>
<td>Doğan Burda Magazine</td>
<td>0.473</td>
<td>Paper and Paper Products Printing</td>
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<td>Bandırma Packaging Materials</td>
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<td>Lüksa Velvet</td>
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<td>Paper and Paper Products Printing</td>
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<td>18</td>
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<td>Ersu Fruit and Food</td>
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<td>Food, Beverages &amp; Tobacco</td>
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<td>Saray Printing</td>
<td>0.411</td>
<td>Metal Goods, Machinery and Equipment Making</td>
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<td>22</td>
<td>Berkosan</td>
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<td>23</td>
<td>Dagı Clothing</td>
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<td>Textile, Clothing, Leather</td>
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<td>29</td>
<td>Burçelik Stell Casting</td>
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<td>Metal Main Industry</td>
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<td>Taç Agricultural Products</td>
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Table 4. BIST SME Industry Index Year 2017 TOPSIS Ranking and Changes in Ranking Compared to Last Year's Ranking

<table>
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<tr>
<th>Rank</th>
<th>Company Name</th>
<th>TOPSIS Score</th>
<th>Sector</th>
<th>Difference in Ranking</th>
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<tbody>
<tr>
<td>1</td>
<td>Federal-Mogul İzmit Piston and Pin</td>
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</table>
### Table 5. BIST SME Industry Index Year 2018 TOPSIS Ranking and Changes in Ranking Compared to Last Year's Ranking

<table>
<thead>
<tr>
<th>Rank</th>
<th>Company Name</th>
<th>TOPSIS Score</th>
<th>Sector</th>
<th>Difference in Ranking</th>
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<td>Federal-Mogul İzmit Piston and Pin</td>
<td>0.613</td>
<td>Metal Goods, Machinery and Equipment Making</td>
<td>-1</td>
</tr>
<tr>
<td>3</td>
<td>Gediz Packaging</td>
<td>0.606</td>
<td>Chemical, Petroleum Rubber, Plastic</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>Doğan Burda Magazine</td>
<td>0.601</td>
<td>Paper and Paper Products Printing</td>
<td>-7</td>
</tr>
<tr>
<td>5</td>
<td>Mega Poliötefen Foam</td>
<td>0.588</td>
<td>Chemical, Petroleum Rubber, Plastic</td>
<td>-3</td>
</tr>
<tr>
<td>6</td>
<td>Bandırma Packaging</td>
<td>0.564</td>
<td>Metal Goods, Machinery and Equipment Making</td>
<td>+18</td>
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<tr>
<td>7</td>
<td>Seyitler Chemistry</td>
<td>0.551</td>
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<td>+2</td>
</tr>
<tr>
<td>8</td>
<td>Sömmez Textile</td>
<td>0.536</td>
<td>Textile, Clothing, Leather</td>
<td>-1</td>
</tr>
<tr>
<td>9</td>
<td>Vanet Food Industry</td>
<td>0.534</td>
<td>Food, Beverages &amp; Tobacco</td>
<td>+31</td>
</tr>
<tr>
<td>10</td>
<td>Politeknik Metal</td>
<td>0.534</td>
<td>Chemical, Petroleum Rubber, Plastic</td>
<td>-6</td>
</tr>
<tr>
<td>11</td>
<td>Yaprapak Dairy Farm</td>
<td>0.529</td>
<td>Agriculture, Forestry and Fisheries</td>
<td>+1</td>
</tr>
<tr>
<td>12</td>
<td>Ditaş Doğan Spare Part Manufacturing</td>
<td>0.525</td>
<td>Metal Goods, Machinery and Equipment Making</td>
<td>+1</td>
</tr>
<tr>
<td>13</td>
<td>Forment Stell Door</td>
<td>0.524</td>
<td>Metal Goods, Machinery and Equipment Making</td>
<td>-5</td>
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<tr>
<td>14</td>
<td>Saflak Ege Cooling</td>
<td>0.523</td>
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<td>+9</td>
</tr>
<tr>
<td>15</td>
<td>Kristal Cola</td>
<td>0.521</td>
<td>Food, Beverages &amp; Tobacco</td>
<td>+3</td>
</tr>
<tr>
<td>16</td>
<td>Özerden Plastic</td>
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<td>Chemical, Petroleum Rubber, Plastic</td>
<td>-1</td>
</tr>
<tr>
<td>17</td>
<td>Saray Typography</td>
<td>0.516</td>
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<tr>
<td>18</td>
<td>Burçelik Valve</td>
<td>0.510</td>
<td>Metal Main Industry</td>
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<tr>
<td>19</td>
<td>Prizma Press</td>
<td>0.509</td>
<td>Paper and Paper Products Printing</td>
<td>+4</td>
</tr>
<tr>
<td>20</td>
<td>Lüks Velvet</td>
<td>0.504</td>
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<td>+9</td>
</tr>
<tr>
<td>21</td>
<td>İzmir Brush</td>
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<td>Chemical, Petroleum Rubber, Plastic</td>
<td>+6</td>
</tr>
<tr>
<td>22</td>
<td>Berkosan</td>
<td>0.504</td>
<td>Chemical, Petroleum Rubber, Plastic</td>
<td>-3</td>
</tr>
<tr>
<td>23</td>
<td>Ersu Fruit and Food</td>
<td>0.501</td>
<td>Food, Beverages &amp; Tobacco</td>
<td>-3</td>
</tr>
<tr>
<td>24</td>
<td>Rodrigo Textile</td>
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<td>Textile, Clothing, Leather</td>
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</tr>
<tr>
<td>25</td>
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<tr>
<td>26</td>
<td>Dagi Clothing</td>
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<td>Textile, Clothing, Leather</td>
<td>-10</td>
</tr>
<tr>
<td>27</td>
<td>Machine Tool Industry</td>
<td>0.493</td>
<td>Metal Goods, Machinery and Equipment Making</td>
<td>-10</td>
</tr>
<tr>
<td>28</td>
<td>Te-mapol Polymer Plastic</td>
<td>0.492</td>
<td>Chemical, Petroleum Rubber, Plastic</td>
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<tr>
<td>29</td>
<td>Denizli Glass Industry</td>
<td>0.489</td>
<td>Stone Soil Based</td>
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</tr>
<tr>
<td>30</td>
<td>Oylum Industrial Investments</td>
<td>0.480</td>
<td>Food, Beverages &amp; Tobacco</td>
<td>+2</td>
</tr>
<tr>
<td>31</td>
<td>Niğde Concrete</td>
<td>0.478</td>
<td>Stone Soil Based</td>
<td>+5</td>
</tr>
<tr>
<td>32</td>
<td>RTA Laboratories</td>
<td>0.476</td>
<td>Chemical, Petroleum Rubber, Plastic</td>
<td>-27</td>
</tr>
<tr>
<td>33</td>
<td>Burçelik Steel Casting</td>
<td>0.474</td>
<td>Metal Main Industry</td>
<td>0</td>
</tr>
<tr>
<td>34</td>
<td>Merko Food Industry</td>
<td>0.467</td>
<td>Food, Beverages &amp; Tobacco</td>
<td>+5</td>
</tr>
<tr>
<td>35</td>
<td>Taç Agricultural Prdct.</td>
<td>0.423</td>
<td>Agriculture, Forestry and Fisheries</td>
<td>-13</td>
</tr>
<tr>
<td>36</td>
<td>Say Advertising.</td>
<td>0.421</td>
<td>Metal Goods, Machinery and Equipment Making</td>
<td>-10</td>
</tr>
<tr>
<td>37</td>
<td>Doğusuşan</td>
<td>0.406</td>
<td>Stone Soil Based</td>
<td>+1</td>
</tr>
<tr>
<td>38</td>
<td>Taze Dry Food</td>
<td>0.372</td>
<td>Food, Beverages &amp; Tobacco</td>
<td>-17</td>
</tr>
<tr>
<td>39</td>
<td>Birlik Textile</td>
<td>0.328</td>
<td>Textile, Clothing, Leather</td>
<td>-2</td>
</tr>
<tr>
<td>40</td>
<td>Diriliş Textile</td>
<td>0.315</td>
<td>Textile, Clothing, Leather</td>
<td>-5</td>
</tr>
<tr>
<td>41</td>
<td>Sanişoam Foam</td>
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<td>0</td>
</tr>
<tr>
<td>42</td>
<td>Emek Electric Industry</td>
<td>0.001</td>
<td>Metal Goods, Machinery and Equipment Making</td>
<td>0</td>
</tr>
</tbody>
</table>
Selected financial ratios are used as decision matrix. In step 2, the normalized matrix is formed by dividing each of the proportions in the decision matrix by the square root of the sum of the squares of the proportions. The weighted normalized matrix was obtained by weighting the normalized matrix. Equal weight was given to each decision criterion (financial ratio) while weighting process was made and the weight given to each ratio was 1/9. After weighting, the maximum and minimum values for each decision criterion (financial ratio) were determined as ideal solution points and negative ideal solution points.

After obtaining ideal and negative ideal solution points, the distance to ideal and non ideal points were obtained by using $S_i^* = \sqrt{\sum_{j=1}^{n}(v_{ij} - v_j^*)^2}$ and $S_i^- = \sqrt{\sum_{j=1}^{n}(v_{ij} - v_j^-)^2}$ formulas. Finally, the proximity to the ideal solution was calculated by using $C_i = \frac{s_i^-}{s_i^* + s_i^-}$ formula.

According to the results in the Table 3, the top five companies with the highest financial performances in 2016 are; Sönmez Cotton, Federal-Mogul İzmit Piston and Pin, Gediz Packaging, Çimbeton Cement and Polytechnic Metal. Additionally, Taç Agricultural Products, Diriliş Textile, Vanet Food Industry, Emek Electrical Industry and Sanifoam Sponge, are the ranked at the bottom of the 2016 financial performance ranking with the lowest financial performances.

According to the results in the Table 4, the top five companies with the highest financial performances in 2016 are; Federal-Mogul İzmit Piston and Pin, Mega Polyethylene Foam, Gediz Packaging, Politeknik Metal and RTA Laboratories.

Doğusan, Merko Food Industry Trade, Vanet Food Industry, Sanifoam Foam, Emek Electric Industry are the ranked at the bottom of the 2017 financial performance ranking with the lowest financial performances.

According to the results in the Table 5, the top five companies with the highest financial performances in 2018 are; Çimbeton, Federal-Mogul İzmit Piston and Pin, Gediz Packaging, Doğan Burda Magazine, Mega Polietilen Foam.

Taze Dry Food, Birlik Textile, Diriliş Textile, Sanifoam Foam and Emek Electric Industry are the ranked at the bottom of the 2018 financial performance ranking with the lowest financial performances.

Federal-Mogul İzmit Piston and Pin company was ranked in the first two ranks every year between 2016-2018. Based on this information, it can be said that Federal-Mogul İzmit Piston and Pin company consistently showed a high financial performance between 2016-2018.

Sanifoam Foam and Emek Electric Industry are the last two companies in all years between 2016-2018.

5. Conclusion

TOPSIS, which is one of the Multi Criteria Decision Making methods, is used in the evaluation of the past performance of companies or organizations as well as many decision making problems. In this study, financial performance rankings of 42 firms included in BIST SME Industry index were determined separately for each year between 2016-2018 by using TOPSIS method. The liquidity ratios used in financial performance measurement are the ratios that show the financial performance of the firms in terms of their ability to pay their due debts, their activity ratios to show their effective use of their assets, and their profitability ratios in terms of revealing the returns they generate as a result of their activities. Therefore, the liquidity, efficiency and profitability of the companies were evaluated together in the financial performance measurement made with TOPSIS method. Different methods or different financial ratios may be used in subsequent studies. In addition, the results can be compared with the stock market performances of the firms.

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Evaluation of Financial Performances of SMES...


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THE ROLE OF THE ACCIDENT INSURANCE IN AGRICULTURE FOR FARMERS

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Abstract

Agriculture, in addition to mining and construction, is one of the most accident-producing branches around the world. Such a high risk of accidents on farms arises from the complexity of the farmer's working environment, the need to perform various activities requiring different skills, varying atmospheric conditions, periodic stacking and numerous hazards occurring in the workplace. The Agricultural Social Insurance Fund Act on agricultural insurance distinguishes two types of insurance for farmers: accident, sickness and maternity insurance, and pension and disability insurance. The provisions of this Act were aimed at: provide insured farmers with statutorily guaranteed social assistance in connection with their old age or inability to work, promote generational rotation and changes in the agrarian structure, shape conditions for safe work on farms, institutionally separate social insurance for farmers.

This paper addresses aspects of the accident insurance for farmers in the agriculture in years 2010-2018. Information and data were taken from the literature, current legal acts and from the reports of the Ministry of Agriculture and Rural Development (MARD) as well from the Agricultural Social Insurance Fund (KRUS) in Poland. The analysis was based on selected statistical measures which help to answer the following questions:

1. What is a level of the accident insurance construction?
2. What trends can be observed in the number of accidents farmers reported to KRUS?
3. What are the main reasons of the most fatal accidents?

The act of social insurance for farmers defines an occupational accident as an unexpected occurrence caused by an external factor which happened whilst conducting an activity on a farm, on the way from the house to the farm and on the way back, as well as during usual activities conducted away from the farm but connected with the farm.

The preventive activity of the KRUS conducted since 1993 brings visible effects. The numbers of accidents at agricultural work are decreasing systematically. In 2018, farmers reported to KRUS 15,295 accidents, about 11,010 less than in 2010. According to statistics, most fatal accidents happened due to ‘being run over, being struck, being caught by a moving vehicle’ and ‘falling’, ‘falling objects’, ‘sudden attack of illness’. Statistics show that there is no voivodship (territorial unit) in Poland where there have been no recorded agricultural accident. There are still a high number of accidents in this economic sector. This is why a detailed analysis of this particular work environment has been conducted.

Key words: Insurance System, Evident System, Treads, Safety.
FOOD SAFETY BEHAVIOUR OF HOUSEHOLD FOOD PREPARERS
IN AKWA IBOM STATE, NIGERIA

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Abstract

Food borne illnesses still remain a public health challenge in developing countries. This study examines the Food safety behaviour, here conceptualised simply as a wholistic measure of food safety knowledge and practices, of household food preparers in Akwa Ibom State, Nigeria. Cross-sectional data was collected, using a structured questionnaire, based on a multistage sampling procedure resulting in a total of 457 respondents. Specifically, the study estimated the prevalence, margin and intensity of food safety behaviour of household food preparers. As a precursor to measuring prevalence, margin and intensity, twenty nine (29) food safety knowledge items and twenty two (22) food safety practices, a total of 41 items were used as the basis for obtaining a food safety behaviour index, \( fsbi \). This food safety behaviour index is, summarily, a measure of a household food preparers’ food safety knowledge and practices expressed as a proportion of all the food safety knowledge and practice items. The mean \( fsbi \), 0.64, was used to dichotomize household food preparers into well behaved and poorly behaved. The margin and intensity measures are based on the proportion of the household food preparers that are poorly behaved. Additionally, a fractional probit regression was estimated to determine the factors affecting the food safety behaviour of household food preparers in the study area. The results, of the percentage prevalence, show that, given the mean \( fsbi \) as critical index, 52% of household food preparers are poorly behaved. A disaggregated mean, another measure of prevalence, reveals that the mean \( fsbi \) for poorly behaved and well behaved household food preparers is 0.32 and 0.65 respectively. The mean margins, 0.07 and 0.04, are the figures by which the \( fsbi \) of household food preparers that are poorly behaved and all households respectively could be increased to ensure household food preparers are all well behaved. The intensity values, 0.02 and 0.01 indicate that the gap between the poorly behaved and well behaved is wider when the mean proportionate margin is expressed as a function of the total number of households that poorly behaved than the total number of households. Output from the fractional regression reveal that a household food preparer who is educated and confident in safety labels is 0.8% and 6% times more likely to be well behaved than one who is not. It can be concluded based on results that even though the margin between well behaved and poorly behaved is not so intense, much is still left to be desired as regards the overall prevalence of food safety knowledge and practices of households in the study.

Keywords: Food Safety, Prevalence, Margin, Intensity, Fractional Probit Regression.

1. Introduction

As an increasing concern on the global frontier, food safety largely sways public health across the globe (Lam, Remais, Fung, Xu, & Sun, 2013). An approximation by World Health Organization reveals that about 600 million almost 1 in 10 people in the world get sick subsequent to the ingestion of infected food and 420,000 die every year, resulting in the loss of 33 million promising life years (World Health Organization, 2017). According to Mukhopadhyay et al(2012), in developing countries, approximately 70% of cases of food-borne disease, specifically diarrhea are not unconnected with consumption of infected food. Pathogens can infect food from all stages of production to distribution and consumption of food through contaminated equipment, food handlers and also final consumers (Hedberg, MacDonald and Osterholm, 1994). A fair number of factors influence the occurrence of food-transmitted diseases; some of the more critical ones are contaminated food supplies,
inappropriate food storage, providing food from sources of poor hygiene, and poor personal cleanliness (Lynch et al 2006).

Most cases of food borne illness are preventable if food safety guiding rules are adhered to from production to consumption. The home food preparer is a critical link in the chain to prevent food borne illness and needs to be aware of how to minimize the presence of pathogens or other disease causing substances in food. Food can be mishandled at a wide rand of places running the gamut from food preparation to handling and storage. (Mederios, Hillers, Kendall, & Mason, 2001). Bas, Ersun, and Kivanc (2006) found that there is a dearth of information among food handlers with reference to issues bordering on food safety (critical temperatures of hot or cold ready-to-eat foods, acceptable refrigerator temperature ranges, and cross-contamination etc.). Relatedly, more studies have examined food hygiene knowledge and practices in Nigeria in response to the unsettling findings stemming from various parts of the globe. In Nigeria, poor food safety practices were reported in Nigeria’s Federal Capital Territory (Ifeadike, Ironkwe, Adogu, &Nnebue, 2014). Musa and Akande (2003) revealed that about 54 per cent of food handlers examined reuse water repeatedly for washing and cleaning without replacing. Most studies either report food safety knowledge and practices separately, or food safety knowledge and food safety practices only. This study, however, against the foregoing background, wholistically conceptualises and measures food safety knowledge and practices as behaviour of household food preparers in the study area.

2. Materials and Methods

2.1 Study Area

The study will be conducted in AkwaIbom State, located in the South-South geopolitical and South East ecological zones of Nigeria. The State lies between 4°33” and 5°33” North latitudes, and 7°35” and 8°25 East longitudes. With an estimated total area is put at 7,245,935km², and a shoreline of 129km on the Atlantic Ocean to the South, it borders with Cross River State to the East, Abia State to the North, and Rivers State to the West (Ajana 1996 and Uwatt 2000).The population of the State according to the 1991 census was 2,359,736, out of which 1,162,430 are males while 1,197,306 are females (National Population Commission, NPC 1991). The 2006 provisional census puts the population at 3,920,208, out of which 2,044,510 are males while 1,875,698 are females. The major ethnic groups in the state are Ibibio, Anang and Oron with Ibibio being the main language. The above population lives within the tropical rainforest zone with two major seasons: rainy season (May to October) and a dry season (November to April). Annual rainfall ranges between 2400mm along the coast and 2000mm. The State is divided into six (6) agricultural zones namely- Abak, Etinan, Eket, Uyo, Oron and IkotEkpene.

2.2 Data Collection

Data for the study was cross-sectional. This primary data was obtained using a structured questionnaire that was administered to households. Furthermore, a multistage sampling procedure was applied in this study. In the first stage, three agricultural zones were randomly selected out of the six agricultural zones, namely: Uyo, Eket and IkotEkpene. Next, three local governments each were purposively to give urban, semi-urban and rural representation to the study. Thirdly, six communities were randomly selected from each of the selected Local governments. In the last stage 10 households were randomly selected, giving a total of 540 households (180 from each selected zone). However, 457 questionnaires were duly and properly completed and hence the analysis was based on this number. Data was collected in 2018.
2.3 Estimating Prevalence, Margin and Intensity

2.3.1 Food Safety Behaviour Index

Food Safety Behaviour Index (fsbi), a compound measure of food safety knowledge and practices expressed as a proportion of the 29 and 22 food safety knowledge and food safety practice items respectively, is obtained as follows:

\[
fsbi = \frac{88}{117} \times fsps + \frac{29}{117} \times fsks
\]

*88: Using a 5 point likert scale, food safety practice score, fsps, of 0, 1, 2, 3 and 4 were assigned for the following responses respectively; never, not often, sometimes, most times and always. 4 multiplied by 22 gives 88 - the highest possible value of fsps.

*29: Values of 0 and 1, food safety knowledge score, fsks, were assigned to incorrect and correct responses of household food preparers to food safety knowledge statements marked true or false.

*117: Sum of 88 and 29. fsbi is expressed as a weighted function, weights of 0.75 and 0.25 assigned to fsps and fsks, of the measures of food safety practices and food safety knowledge.

2.3.2 Percentage Prevalence

The first measure is simply a percentage of households who fall below (poor) and above/equal to (good) the critical scores. This measure uses an indicator function that takes on a value of 1 poor (and good) households in terms of food safety behaviour, alternately and expresses it as a proportion of the total number of households. This is given as:

\[
fsbi_{pp} = \frac{\sum_{i=1}^{N} 1(fsb_i < 0.64)}{N}
\]

And

\[
fsbi_{pp} = \frac{\sum_{i=1}^{N} 1(fsb_i \geq 0.64)}{N}
\]

N = total number of households (= 457)

2.3.3 Disaggregated mean Prevalence: A second measure of prevalence is also obtained. This is essentially a mean computed based on actual values of fsbi (as opposed to the use of an indicator function that assigns 1 to households that are poor and good, alternately, in terms of food safety behaviour). This measure is obtained as follows:

\[
fsbi = \frac{\sum_{i=1}^{N} (fsbi < 0.64)}{n}
\]

n = number of households with fsbi < 0.64

\[
fsbi_{pa} = \frac{\sum_{i=1}^{N} (fsbi \geq 0.64)}{n}
\]

n = number of households with fsbi ≥ 0.64

2.3.3 Margin

The mean margin and the mean proportionate margin are the measures of the margin, which is basically a deviation from the threshold score by poorly behaved households in the study area, reported in this section. These are computed based on the number of poorly behaved households and all households in the study area - the rationale for this being that the number of poorly behaved households and all the households provide the basis for conclusion in terms of targeted interventions (ones geared towards poorly behaved households) and untargeted ones (ones spread across all households).
2.3.4 Mean Margin

This measure of the margin is obtained as follows:

\[ fsbi_{mm} = \sum_{i=1}^{N} (0.64 - \frac{\text{fsbi}_i}{0.64}) \frac{1}{N} \]

\[ N = \text{total number of households} (= 457) \]

And

\[ fsbi_{mm} = \sum_{i=1}^{N} (0.64 - \frac{\text{fsbi}_i}{0.64}) \frac{1}{n} \]

\[ n = \text{number of households with } \text{fsbi}_i < 0.64 \]

2.3.6 Mean Proportionate Margin: This measure of the margin, which is a deviation from the threshold score expressed as a proportion of the threshold score, is given as follows:

\[ fsbi_{mpm} = \sum_{i=1}^{N} (0.64 - \frac{\text{fsbi}_i}{0.64}) \frac{1}{n} \]

\[ n = \text{number of households with } \text{fsbi}_i < 0.64 \]

\[ fsbi_{mpm} = \sum_{i=1}^{N} (0.64 - \frac{\text{fsbi}_i}{0.64}) \frac{1}{N} \]

\[ N = \text{total number of households} (= 457) \]

2.3.7 Intensity: This is the mean proportionate margin squared. It measures the extremity of the deviation of the poorly behaved from the mean (the threshold score) and is obtained as follows:

\[ fsbi_{in} = \sum_{i=1}^{N} \left( \frac{0.64 - \text{fsbi}_i}{0.64} \right)^2 \frac{1}{n} \]

\[ n = \text{number of households with } \text{fsbi}_i < 0.64 \]

\[ fsbi_{in} = \sum_{i=1}^{N} \left( \frac{0.64 - \text{fsbi}_i}{0.64} \right)^2 \frac{1}{N} \]

\[ N = \text{total number of households} (= 457) \]

2.4 Estimating Factors Affecting Food Safety Knowledge

The probability of a household being dietary diverse is determined essentially by socio-economic characteristics. Probit models, as contrasted with linear probability models, have conditional probabilities that are nonlinearly related to the independent variable(s). Furthermore, probit functions have the characteristic of approaching 0 and 1 asymptotically, hence the predicted probabilities are always sensible. In addition, the probit model is based on the standard normal cumulative density function (CDF). This is defined basically as follows:

\[ F(Z) = \int_{-\infty}^{z} 2\pi^{-\frac{1}{2}} e^{-\frac{z^2}{2}} dz \]

where \( Z \) is a standard normal variable and \( e \) is the base of the natural log. In a probit model since the standard normal CDF replaces the linear function, what is estimated is as given below:

\[ E(Y|x_i) = \Pr(Y = 1|x_i) = F(\beta_0 + \beta_i X_i) = \int_{-\infty}^{\beta_0+\beta_i X_i} (2\pi)^{-\frac{1}{2}} e^{-\frac{\beta_0+\beta_i X_i}{2}} d(\beta_0 + \beta_i X_i). \]

The \( \beta \) terms are not estimated using Ordinary Least Squares regression but a technique known as maximum likelihood estimation. This estimation finds values for the parameters (\( \beta_s \)) that maximize the probability of observing the \( Y \) values in the sample with the given \( X \) values. Sometimes it is more convenient for a researcher to express the dependent variable as a fraction, percentage or proportion. In such an instance, as is the case in this study, fractional probit regressions, a variant of the traditional
probit regression is used. In simple terms, the main difference is that in this context the dependent variable is $0 \leq Y \leq 1$.

The coefficients produced by estimating a probit model provide the change in the $Z$ (standard normal) value for a unit change in the dependent variables. In order, therefore, to obtain the impact of the independent variables on the probability of observing the outcome, marginal effects are further estimated. Food safety knowledge of household food preparers is expressed as a proportion of a maximum possible value and is hence a value that lies between 0 and 1. The factors affecting the probability of a household being dietary diverse are the explanatory variables for the fractional probit model. These variables are: $X_1 =$ Age, $X_2 =$ Education, $X_3 =$ Household size, $X_4$ = Monthly income of household, $X_5 =$ Children below 5 years, $X_6 =$ Adults above 65 years, $X_7 =$ Confidence in Safety labels.

3. Results and Discussion

3.1 Summary Statistics of Continuous Variables

Table 1. Summary Statistics of the Continuous Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age(years)</td>
<td>41</td>
<td>11</td>
<td>18</td>
<td>78</td>
</tr>
<tr>
<td>Monthly income(figures in Naira)</td>
<td>94793.03</td>
<td>71297.76</td>
<td>10000</td>
<td>850000</td>
</tr>
<tr>
<td>Education(years)</td>
<td>13</td>
<td>4</td>
<td>0</td>
<td>23</td>
</tr>
<tr>
<td>Household Size(figures)</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Children below five (5) years(figures)</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Adults above 65 years(figures)</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Field Survey, 2018

3.2 Descriptive Statistics of Dummy Variables

Table 2 shows that over 90% of the population are married, employed females. This formed the basis for which marital status, gender and employment status as socioeconomic characteristics of the population were excluded from the fractional probit regression as these factors are almost completely determined.

Table 2. Descriptive Statistics of Dummy Variables

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Frequencies</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>40</td>
<td>8.75</td>
</tr>
<tr>
<td>Married</td>
<td>417</td>
<td>91.25</td>
</tr>
<tr>
<td>Total</td>
<td>457</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Frequencies</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployed</td>
<td>12</td>
<td>2.63</td>
</tr>
<tr>
<td>Employed</td>
<td>445</td>
<td>97.37</td>
</tr>
<tr>
<td>Total</td>
<td>457</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequencies</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1</td>
<td>0.22</td>
</tr>
<tr>
<td>Female</td>
<td>456</td>
<td>99.78</td>
</tr>
<tr>
<td>Total</td>
<td>457</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Confidence in Safety Labels</th>
<th>Frequencies</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confident</td>
<td>336</td>
<td>73.52</td>
</tr>
<tr>
<td>Not Confident</td>
<td>121</td>
<td>26.48</td>
</tr>
<tr>
<td>Total</td>
<td>457</td>
<td>100</td>
</tr>
</tbody>
</table>

3.3 Prevalence, Margin and Intensity of Food Safety Behaviour

Using the mean 0.64 as critical index, Table 3 reveals that 52% and 48% of households in the study area are poorly and well behaved respectively. Several studies (Abushelaibi et al. (2016); Bektas et al. (2011); Hertzman & Barrash (2007); Moreb, Priyardashini & Jaiswal (2017); Lee et al. (2017); Chen et al. (2018); Meyenberg et al. (2014); Mendagudali et al. (2015); Iwu et al. (2017); Mirzaei et al. (2018); Sharif & Al-Malki (2008); Luo et al. (2019)) report varying levels of food safety knowledge and practices. The figures, 0.5 and 0.72, seen in Table 3, are the mean food safety behaviour indices, given that the critical index is 0.64, for households that are poorly and well behaved respectively in the study area.

Table 3. Prevalence, Margin and Intensity of Food Safety Behaviour at Mean fsbi

<table>
<thead>
<tr>
<th>Prevalence</th>
<th>Margin</th>
<th>Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>Prevalence</td>
<td>Mean Margin</td>
</tr>
<tr>
<td>*(PB)</td>
<td>*(WB)</td>
<td>PB</td>
</tr>
<tr>
<td>52.00</td>
<td>48.00</td>
<td>0.57</td>
</tr>
</tbody>
</table>

Note: *PB = poorly behaved; *WB = Well behaved

Given the mean fsbi (0.64) as critical index, the figure 0.07 depicts the mean deviation from the critical index strictly of households found to have poor behaviour with respect to food safety. Intuitively, this value represents the minimum value by which any intervention should aim to raise the value of the fsbi (i.e. increase the knowledge base of households with respect to food safety and create incentives for better practices) of households in the study area, provided that the measures are targeted only at households where fsbi are below the mean. In a closely related vein, 0.04 is the minimum value by which any intervention should seek to raise the fsbi of all households in the study area irrespective of whether the households are poorly and well behaved.

Based on the critical index (0.64), as seen in Table 3, the value, 0.11 is the mean proportionate margin of the population (where households with fsbi ≥ 0.64 have zero margin). It is useful to think of this measure as the minimum value (expressed as a proportion of the critical index) by which fsbi of households have to be raised to increase them to the critical values under consideration. Multiplying these values by the respective critical indices, the precise minimum value by which an intervention should seek to raise fsbi is obtained. This is provided that the interventions are targeted only at uninformed and poorly behaved households.

Relatively, based on the three critical index, 0.64, the figure 0.06 is the ratio of the minimum value by which fsbi must be raised with perfect targeting (intervention aimed at households with poor behaviour with respect to food safety) to the maximum value with no targeting (where intervention is applicable to all households irrespective of their behaviour with regards to food safety) which would entail aiming to raise the value of every households’ fsbi enough to ensure they are not below the critical value.

The figures 0.02 and 0.01 reveal the intensity (severity) of the deviations of households with poor behaviour from the critical index 0.64 when the mean margin and the mean proportionate margin are obtained based on the number of households with poor behaviour with respect to food safety and all the households respectively.

3.4 Factors Affecting Food Safety Behaviour of Household Food Preparers

As revealed in Table 4, household income is statistically significant at 5% and negatively related to the probability of a household food preparer being informed about food safety and carrying out food safety practices. This means that households with lower income are more likely to be informed about food safety and to be carrying out food safety practices. This has intuitive appeal but a reduction in income need not affect knowledge and practices once acquired and imbibed respectively. Specifically, the marginal effects imply that a 1 unit increase in household income decreases the probability of a household food preparer carrying out food safety practices by 1.31 e^{-0.05%).
Table 4. Results from Fractional Regression for Factors affecting Food Safety Behaviour of Households

| Independent Variables          | P > |z| Value | Marginal Effect |
|-------------------------------|------|--------|-----------------|
| Age                           | 0.270|        | -.000334        |
| Education                     | 0.000***|       | .0081185        |
| Household Size                | 0.787|        | -.0007089       |
| Household Income              | 0.024**|       | 1.31e^{-0.7}    |
| Children below 5 years.       | 0.448|        | .0031167        |
| Adults above 65 years         | 0.129|        | .0081809        |
| Confidence in Safety labels.  | 0.000***|       | .0596671(*)     |

Additionally, Table 4 shows that education of household food preparer and confidence in safety labels are statistically significant at 1% and positively related to the probability of household food preparers carrying out food safety practices in the study area. This shows that more educated household food preparers and those confident in safety labels are more likely to carry out food safety practices than less educated and those who are not confident in safety labels. The marginal effects reveal that a 1 unit increase in the education of the household food preparer increase the probability of carrying out food safety practices by 0.8%. Additionally, from Table 4, the marginal effects show that household food preparers that are confident in safety labels are 6% more likely to carry out food safety practices than their counterparts who are not. Luo et al (2019) show that education level of mothers significant in explaining food safety practices score of students in China. Additionally, Mirzaei et al (2018) finds that adolescents level of education, parents’ educational level and household economic conditions significant in explaining their food safety practices. Other studies (Bektas et al (2011); Akabanda et al (2017) and Moreb et al (2017)) find education significant in explaining food safety knowledge. Yilmaz (2014) reports that education is a statistically significant factor in explaining food safety knowledge, practices and behaviour. Furthermore, Unusan (2005) finds education significant in explaining attitude towards food safety.

4. Conclusion

Food safety is a present day public health issue plaguing developed and developing countries alike. The outcome of the analysis of the prevalence, margin and intensity suggest that though the prevalence is fairly high, the margin is not equally wide and hence the deviation from what is termed well behaved is acceptable. Additionally, however, this study finds that education, household income and confidence in safety labels are statistically significant in explaining the probability of households being well behaved with respect to food safety. Education and confidence in safety label are positively related to this probability while household income is negatively related. Thus suggesting that an educated household food preparer who is confident in safety labels is likely to be better than who does not possess the named characteristics. The results of this study are offered in hope that this will be a meaningful cum insightful addition to the understanding of the holistic dynamics of food safety knowledge and practices of household food preparers in the study area.

References


Food Safety Behaviour of Household Food Preparers...


GENERAL EQUILIBRIUM IMPACTS OF TAX POLICIES ON WELFARE OF HOUSEHOLDS IN TAJIKISTAN

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Abstract

During the last 20 years, microsimulation models have been increasingly applied in qualitative and quantitative analysis of public policies. This paper presents an approach to bring together microsimulation and Computable General Equilibrium (CGE) model to perform distributional analysis of tax policy in transition country, like Tajikistan. Particular attention is paid to applications relating to aspects of economic growth and political economy. Applications in which macro, CGE and microsimulation models are either layered or integrated are considered. It is demonstrated that proposed approach are appropriate for different level problems. For short-run impact analysis, microsimulation on its own may be appropriate. For longer-run analyses, where interest is in the interrelationship between changes in disposable income, consumption and labour supply, these models need to be supplemented a combination of microsimulation on the one hand, and general equilibrium price changes or changes in macro variables on the other hand. It is argued that for policy analysis, microsimulation may adequately be combined with macro CGE models.It then discusses social welfare analysis permitted by microsimulation techniques and points to the limits of present approaches and some directions for future developments.

Keywords: Evaluation of Public Policies, Inequality, Microsimulation, Poverty, Redistribution.

1. Introduction

The purpose of the paper is to explore how microsimulation can be combined with CGE and macro modelling techniques to study distributional issues in transition countries, like Tajikistan. This is an area of great current interest. (See, for example, Agénor et al., 2006; Cockburn, 2006; Cogneau and Robilliard, 2006; Bourguignon and Savard, 2008.) While microsimulation is essential in modelling the distributive effects of taxes and transfers, it is limited by the fact that it is often non-behavioural and by its inability to model prices, wages and macro variables. CGE models, on the other hand, have in the past generally lacked the rich distributional detail found in microsimulation. The solution that is increasingly being advocated is to combine these different forms of modelling, either through „layering” the models, or through their integration.

Different combinations of models are needed when dealing with different issues. For some purposes it is sufficient to stick with just one of the standard model types. For example, in some cases there may be little reason to expect complex distributional impacts and standard CGE modelling, with its representative household groups, may be enough. Conversely, if interest centres on distributional impacts and there is reason to believe that general equilibrium price effects will be unimportant, then conventional microsimulation may be sufficient. But there are cases where combining the approaches is necessary to get an accurate picture. A prototypical case is that of removing agricultural protection in developing countries. Tariff removal leads to lower food prices, benefitting poor consumers. On the other hand, lower agricultural prices reduce the wages of agricultural labourers, many of whom are also poor. The result is that some of the poor will benefit and others will lose. CGE is needed to capture the wage and price effects, and microsimulation is needed to net out gains and losses for individual households, allowing accurate distributional analysis to be performed.

Currently, in the developing world, the leading distributional issues surround the impact of factors like trade liberalisation, adjustment policies (i.e. tax policy) and financial crises on poverty and overall income inequality. In the transition economies similar issues are also important, but there are features that give some of these countries important aspects in common with higher income countries. CIS and the East European transition countries, although still poor relative to the West, are highly urbanized
and industrialized. The portion of the economy in the informal sector is also relatively small compared with many developing countries. These aspects mean that food price and agricultural issues, for example, are less important than in many developing countries. Also, the tax, benefit and pension issues that face members of a formal-sector industrial workforce are more important. Conventional microsimulation has been developed to analyze policy issues and distributional impacts in highly urbanized and industrialized societies, and may therefore be more applicable and relevant in these transition countries than in many developed countries (DCs).

While there have been a few important contributions, neither microsimulation nor CGEmodelling are so far very advanced in most transition countries. Part of the reason may lie in data requirements and lack of modelling resources. And part may lie in the uncertainty about how to model these economies. But it may also be that the pace of change has been so rapid as to restrict the payoff to, and applicability of, such modelling. CGE models in particular assume that the base year is one of equilibrium, which is problematic. If transition begins to proceed in a more orderly way, better data become available, and more consensus develops about how to model these economies, improved prospects for microsimulation and CGE work will arise.

CGE and standard macro models provide static analyses. Ultimately, one is interested in the connection between growth and other phenomena including income distribution. There has been some interesting work in this area, but it is to be hoped that micro-macro links will extend more to dynamic modelling in the future. Tax and benefit changes can affect growth, for example through impacts on saving and investment, human capital formation, fertility, innovation, and incentives for the adoption of new technology. And trade reforms can stimulate growth through the expansion of export industries and FDI, as well as through capital accumulation/technology effects – at the same time generating possibly complex distributional impacts.

2. Background

To date, significant effort has already been done in Tajikistan to reduce poverty. Between 2000 and early 2015, poverty level declined from 83% to approximately 31%. Tajikistan entered the list of 10th of the world's leading countries in terms of poverty reduction rates over the past 15 years. The Government of the Republic of Tajikistan aims for ambitious goals by 2030 - this is Gross Domestic Product (GDP) acceleration twice, poverty reduction by 20% and middle class expansion. Today, the GDP rate is 6.8%, gross capital formation – 28.9% of GDP, tax revenues – 23.4% of GDP, annual population growth – 2.4% household consumption – 84.6% of GDP, import of goods and services – 42.3% of GDP. The tax system of the Republic of Tajikistan has been changed for several times from the beginning of independence (1991). Nowadays, it consists of 8 republican and 2 local taxes. The main share of tax revenues are indirect taxes (VAT, excises) which accounts for 46%.

The National Development Strategy of the Republic of Tajikistan for the period 2030 sets the task of tax administration improvement in order to increase the tax collection, reduce administrative burden on responsible taxpayers, increase transparency and predictability of the tax system. The Strategy also emphasizes the role of the Tajik tax system as an important component of public industrial policy, where sets the task of improving the Tax Code of the Republic of Tajikistan in order to create conditions for inclusive development of the country. The results of the government's measures on tax legislation reform will inevitably affect all levels of society, all sectors of industry and regions of the country, therefore the importance of understanding and forecasting the possible consequences of the reforms is beyond doubt. Moreover, assessing the consequences of reforms is also important for the formation of appropriate compensatory measures to prevent negative changes in the structure of production and income of the population.

Three different consequences might occur and should be analyzed with regard to changes in tax legislation:

- Reducing the tax burden on taxpayers will lead to a significant reduction in budget revenues. Compensation for losses could be achieved through the introduction of new taxes or excises, and/or on the other hand, by expanding the tax base through exit a part of production turnover from shadow economy
- Reducing the tax burden will cause changes of production structure, export and import flows, relative prices of goods, income from production factors, economic growth rates. Thus, this will lead
to changes in demand for production factors, in particular, this will affect the level and structure of employment;

- The changes described above will directly affect labor and transfer incomes of the population. In turn, this will lead to changes in the level of inequality, poverty, welfare.

3. Research Approach

Heterogeneous agent models have become a standard tool in macroeconomics. This approach added more richness and realism to macroeconomic models and allowed for the exploration of topics related to distributional issues that could not be otherwise addressed. However, there often remains a lack of detail in the way policy instruments are incorporated into dynamic general equilibrium models. The gap between the rich heterogeneity in model agents and lack of policy detail can be especially striking in the context of models used to evaluate tax policy. This gap is often due to the intractability of modeling the details of realworld policy.

There are many publications devoted to various policy analysis by General Equilibrium Model (GEM) approach both for developed and developing countries. Thus, for developed countries Drygalla et al. (2016) used the Dynamic Stochastic General Equilibrium (DSGE) model to analyze the effects of the stimulus packages adopted by the German government. Krueger and Ludwig (2016) examined policy relevant questions regarding tax policy and have a rich model comprised of agents with heterogeneous skill-levels, assets, and age. In particular they model the tax policy using linear tax functions. Models at the frontier of the dynamic analysis of fiscal policy, such as Nishiyama (2015), impose tax functions that are progressive but do not allow for marginal rates on a particular income source to be a function of other income. Recently, DeBacker et al. (2015) developed large scale overlapping generations model with heterogeneity across the lifecycle and over earnings ability types, where an increase in income tax rates and a progressive wealth tax have been considered. Individual effective tax rates are integrated and marginal tax rates are computed from a microsimulation (partial equilibrium) model of Tax policy with a dynamic general equilibrium model of tax policy that can provide macroeconomic analysis or dynamic scores of tax reforms (DeBacker et al., 2017).

The research in the scope of developing countries is advanced by Hauner (2008). He proposed the DSGE model approach to analyze policy options for Pension system in Russia. Davies (2002) devoted to tax policy implications on households income in transition economies by using Computable General Equilibrium (CGE) model.

The research methodology proposed in this study is one of the newest in the world economic science and has been used widely in the last years in many developing and developed countries in order to examine the impact of various macroeconomic reforms and shocks on various components of the economic system. One of the advantages of this methodology is usage of national accounts data, which makes it easy to modify methodology for a specific country, as well as analyze economic processes in dynamics.

The idea of this approach is proposition a flexible functional form for tax rates that has the smoothness and monotonicity properties necessary for solving a Dynamic General Equilibrium (DGE) model while retaining much of the heterogeneity found in microsimulation model tax data. The proposed tax functions can capture progressive rates and account for the influence of income across sources on marginal rates. That is, tax functions are multivariate, where income from one source affects marginal rates from other sources of income. Second, we propose a methodology where one can easily fit these tax functions using the output of a microsimulation model. The use of a microsimulation model is important since this model is able to capture the rich detail of tax policy and its impact on households with different economic and demographic characteristics. The tax functions we propose then map the results of themicrosimulation model, the computed average and marginal tax rates, into parameterized functions that can be used in a macroeconomic model. We tailor our functions here to a specific microsimulation model and DGE model, but the methodology we propose can be scaled up or down to account for models with more or less heterogeneity. A detailed analysis of this research methodology is presented in DeBacker et al. (2017).
4. The Model Specification

To illustrate how tax policy enters a macroeconomic dynamic general equilibrium model, we use the overlapping generations model of DeBacker et al. (2015). In this proposal we are not able to provide full description of the model. However, we focus specifically on the details of the model that are relevant for describing how and where taxes enter the DGE model. The presented approach in this research has two distinct advantages. It allows the DGE model to capture more detail of tax policy in previously used methods. It also greatly reduces the cost to incorporating rich policy detail and counterfactuals into macroeconomic analysis. The bridge we build between the microsimulation model and the macroeconomic model essentially automates this process.

Second, approach uses the output of microsimulation model to estimate effective and marginal tax rate functions that jointly vary by age, labor income, and capital income. This method is the newest to incorporate this level of detail into the GEM model. It is also novel in the integration between the microsimulation and the GEM models. Such integration not only allows one to estimate tax functions for current law policy, but also to estimate the parameters of tax functions that specify counterfactual tax policies – even those that adjust tax policy levels that are difficult to model explicitly in a general equilibrium framework.

Due to the fact that our focus is on individual income taxes, the effect of such taxes on model agents’ decisions is captured in three equations. First, the total income tax paid by the model agent determines after-tax resources available for consumption and savings. This is related through the budget constraint, that takes into account the real interest rate at time t and the stationarized wage rate at time t. The growth rate in labor augmenting technological change is also incorporated. Furthermore, a function representing income and payroll taxes paid, is a lump sum transfer given to all households, which does not vary with household tax liabilities.

The effects of marginal tax rates effects on consumption, savings, and labor supply can be seen in the necessary conditions characterizing the agent’s optimal choices of labor supply and savings. The first order condition for the choice of labor is given by the marginal benefits to additional labor supply at the left hand side. The right hand side relates the marginal costs from the disutility of labor supply. In addition, we consider the coefficient of relative risk aversion from the constant relative risk aversion utility function.

Finally, consider that many macroeconomic models assume a single composite consumption good. Some of this composite good affects tax liability, such as the consumption of charitable contributions or housing. To the extent that the fraction of the composite good that comes from such consumption varies over a household’s income and age, these tax functions will capture that, since they are fitted using microeconomic data that includes information on these taxrelevant forms of consumption.

5. Integration of Microsimulation Model with the DGE

The microsimulation model which we propose is called Tax-Calculator and is maintained by a group of economists, software developers, and policy analysts. Using microdata on a sample of tax filers, the Tax calculator is able to determine total tax liability and marginal tax rates by computing the tax reporting that minimizes each filer’s total tax liability given the filer’s income and deductions items and the parameters describing tax law.

To map the output of the microsimulation model, which is based on income reported on tax returns, to the DGE model, where income is defined more broadly, we use the following definitions. In computing the effective tax rates from the microsimulation model, we divided total tax liability by a measure of “adjusted total income”. We consider adjusted total income from the microsimulation model to be the counterpart of total income in the DGE model. Total income in the DGE model is the sum of capital and labor income.

6. Expected Results

Thus, in the framework of the research it is supposed to construct both models and incorporate them for the in-depth analysis of Tajik tax policy implications in the context of the equilibrium theory.
In addition to specifying and estimating models for transition economy, we pursue following objectives: first, to construct the DGE model as well as microsimulation model which can be used in integrated form as a policy simulation tool; second, to obtain some insights about tax policy implications within estimation of distributional effects on household incomes; and develop further scenarios for tax policy in Tajikistan.

We suggest using of the model in order to investigate effectiveness of tax policy. The model could be used for the modeling of different scenarios in tax policy which will lead to poverty reduction.

7. Conclusion

This brief presented approach has shown that microsimulation techniques have become relevant practically for the whole of applied economic policy analysis. The greater availability of large and detailed micro-datasets and the foreseeable increase in computing power are drastically modifying our approach to the evaluation of policy reforms. Instead of reasoning through representative agents and aggregate models of the economy, we now try more and more to take into account the fundamental heterogeneity of agents. By dispensing with the very demanding assumption necessary for perfect aggregation of individual behaviours, such an approach greatly improves the macro analysis of reforms. At the same time, it permits evaluating their full distributional impact. This can be done in several instances, under the assumption of no behavioural response. Simple microsimulation tools are straightforwardly developed on that basis and should be used more systematically.

Extending the analysis to cover behavioural responses and the potential general equilibrium and macro-economic effects of reforms requires investing more in micro-economic and macro-economic modelling. Attempts in that direction, briefly described in this survey, show the difficulty of the approach but also the benefits that policy-making could draw from this kind of instrument.

References


AN ASSESSMENT ON THE FINANCIAL LITERACY LEVEL OF GENERATION Z

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Abstract

The ability to follow current economic events at a basic level and make decisions that best result for them by commenting on the possible effects of these events is called financial literacy. Financial literacy has an important place to achieving sustainable economic growth in the individual and social sphere. For this reason, efforts are being made to increase the level of financial literacy in the world. It is estimated that from 2020, about 40% of the worldwide consumer population will be made up of Generation Z. The purchasing power of this young adult group, born in the United States between 2000-2015, is thought to be $ 44 billion.

Generation Z, which is the future of our society, is expected to have at least a basic level of financial knowledge about financial literacy. In the literature, whose were born between 1925 and 1945 are named the traditional generation, whose were born between 1946 and 1964 are named the baby boom generation, whose were born in 1965-1979 are named generation X, born between 1980 and 2001 are named generation Y, born between 2000 and 2020 are named the generation Z. Within the scope of this study, 5 participants of Generation Z who were born after 2000 were asked questions about measuring the level of financial literacy. During the study, recognition questions were asked to identify the participants and to determine whether they had typical characteristics of the generation Z. It was concluded that the participants had the basic characteristics of the generation Z. The results of the study were compared with the results of previous researches.

Keywords: Financial Literacy, Z Generation.

1. Introduction

The importance of financial literacy has increased with fluctuations of economy in Turkey and the world in recent years. Individuals with incomplete knowledge of financial markets that they are likely to suffer economic losses as a result of the wrong decisions. The phenomenon of globalization, combined with financial liberalization and technological innovations, has given the ability to invest in real and legal persons with surplus funds independent of space and time. Indeed, these days, with the help of intermediaries, we can buy and sell the securities we want anywhere in the world.

Although there are studies that accept different year intervals in the literature, the most accepted generation, which was born after 2000, is called Z generation. According to TÜİK data, the Z generation in 2018 was 25.6 million population in Turkey (Turkey Statistics Institute, Population Projections, 2018-2080). The aim of this study is to evaluate the financial literacy levels of these generation members who will have a say in the national economy in the near future.

2. Generation Theory

Generation theory was first proposed in 1928 by the German sociologist Karl Mannheim (Mannheim 1952). Although it was accepted to emerge in 1928, the differences between generations go back to ancient civilizations.

Belonging to the Sumerians and BC. In the cuneiform script thought to have been written between 3500-2000; "What about the youth?" In a poem by Hesiod, who lived in 700 BC; "Young people who are our future, if they continue to live with today's unconcerned attitudes, I have no hope for them, and how careless they all are. When we were young, we were taught to be sober and respectful to our elders, but today's young people (disrespectfully) are very clever. And they are very impatient. Platoon
said, Today's children are fond of luxury, they are disrespectful to their elders and they talk too much. They are not the servants of their homes, they are just bullies. When the elders enter the room, they do not stand up. They clash with their parents, they talk before everyone else in the community, they cross their legs, they treat their teachers badly.” is an example of intergenerational conflict (Berkup, 2015).

However, the formation of the current generation concept has been possible as a result of other scientific studies.

Williams and Page (2011), in their study, say that the generations' expectations, lifestyles, perspectives to the world and purchasing behaviors are different from each other. Although different classifications have been made from the past to the present within the scope of generation theory, it can be said that today four generations live together. These are called Baby Boomers for 1946-1964, X for 1965-1979, Y for 1980-1999, and Z for those born after 2000 (Arslan and Staub, 2015).

2.1 Baby Boomers Generation

More than a billion babies were born worldwide during this period, which coincided with the years after World War II. Because of this population increase, this period is called Baby Boom Generation (Ayhün Erden 2013:99). The most prominent features of this generation are that they are idealistic, competitive, adopting the philosophy of “living for work”, being thoughtful and emotional, having a high sense of loyalty, and depend on authority (Aka 2018; Benlisoy 2008). Representatives of the Baby Boom generation believe that it is only possible to spend the day very hard to live tomorrow.

2.2 X Generation

Individuals born between the years 1965-1979 are named as Generation X (Ayhün Erden 2013). The X generation, which came shortly after the baby boom generation lived in prosperity, experienced various economic crises. Because of these crises, the people of this generation have lived in a more materialist and anxious future. When compared to the previous generation, people of Generation X are more loyal, more considerate, think globally, have developed a sense of social responsibility and are more respectful of authority (Aka 2018).

2.3 Y Generation

This generation, which was born between 1980-2000, is the most populous generation today. This generation, which constantly criticizes the responsibilities imposed on it and questions life and the system, is also called Generation Why Generation (Aka 2018). Since they are intertwined with technology, members of this generation are open to innovations. Growing under the supervision of the conscious generation X, people tend to think of their parents, teachers, or other people they trust when making decisions about their careers (Sherratt and Coggshall 2010). Generation Y members wish to be able to express themselves well in business life, to engage in more than one job at the same time, to understand everything and to play an active role in decision-making processes. Similarly, these generations are not only focused on money but also take care of the social opportunities provided by the working environment (Çetin Aydin and Başol 2015).

2.4 Z Generation

The generation that was born after 2000 is called the Z generation. Due to their intertwined technology, this generation is also called the “Next Generation” (Levickaite 2010). Generation Z's ability to access information is much higher than other generations thanks to technology. They started their education at an early age. The sense of being an individual is more developed than other generations. Generation Z is result-oriented, unsatisfied, unstable and innate consumer. With the development of artificial intelligence, most decisions will be taken without question. It is predicted that this generation will be the most educated generation throughout history (Kon 2017). It is thought that these professions will lose their prominence due to their lack of interest in the occupational branches requiring crafts (www.kigem.com.tr). Almost all of this generation is active social media
users. They do most of their shopping from e-commerce sites. Approximately 80% of generation Z does price research online without shopping (www.epnext.com).

3. Literature Review

There are studies in the literature on the measurement of financial literacy levels of young adults.

In the study conducted by Gutnu and Cihangir to Osmaniye Korkut Ata University staff in 2015, financial literacy levels of university staff were measured. According to the study 84.7% of respondents said the world economic and financial developments in Turkey have reached the conclusion that they follow.

Trying to determine the financial literacy level of Gaziantep University students, Kılıç et al. (2015) administered a questionnaire to 480 students. As a result of the study, they found the financial literacy success level of the students as 48%. In addition to this result, it is seen that male students have higher financial literacy level.

In a study by Beal and Delpachitra (2003) aimed at measuring the financial literacy levels of Southern Queensland University first-year students in Australia, they concluded that students' financial literacy levels were low and financial literacy education given in high schools was insufficient.

In the study conducted by Durmuşkaya and Kavas (2018) on 415 academicians, the male academicians were women, the academicians working in the social sciences were working in the health sciences, the graduate graduates of the graduate graduates, the academicians and the academicians were more literate. In addition, as the age of academics increases, financial literacy levels increase.

İnce conducted a study on the entrepreneurship tendency of the Z generation in 2018 with 102 students from the Department of Tourism. According to the results of the study, it is concluded that generation Z, which is in uncertainty about the future, can contribute to financial and economic developments through proper guidance and education.

Silva et al. (2017) examined the financial literacy levels of high school students in Brazil. 4698 students from 14 different high schools participated in the study. As a result of the research, it was concluded that the students have financial literacy level but they are not sufficient.

4. Research

The main reason for this study is the preliminary evaluation of the future research on financial literacy levels of individuals who were born after 2000 and represent our future. In this context, 5 Z generation individuals who were born after 2000 were selected and asked 6 questions that we have compiled from previous studies in America.

4.1 Data Collection Tools

The date was collected by the surface. Surfaces made by the researcher face to face. The first 5 questions used in the study were inspired by Lewis Mandell which one study of “The Financial Literacy of Young American Adults”.

5. Results

The following questions were asked to the participants.

Question 1. Ali and Ayşe work in the finance department of X. While Ali is on his way to a computer course to improve himself when his out of working time, Ayşe spends time in the gyms with his friends. In your opinion, which of the following options would you expect after 5 years?

A. Ayşe saves more money because she is more social than Ali.
B. Ayşe will be more successful. Because Ali will likely to be fired.
C. Ali will earn more money because he is more valuable for the company.
D. Ali and Ayşe will continue their work with the same salary.
This question was asked to measure the awareness of the concept of Human Capital. While 67.9% of respondents answered this question correctly in 2008, this ratio was 92.1% in 1997. 11% of the answers indicated that Ali and Ayşe would continue to work at the same salary level.

Four of the participants chose D while only one chose the correct answer.

Question 2. Today, most young people benefit from the health insurance of their parents. Which is true about health insurance coverage?

A. I can benefit from my mother's or father's insurance until marriage without age and gender restrictions.
B. If my mother or father becomes unemployed, my health insurance will be canceled.
C. As long as I live in the same house with my parents, my health insurance will be continued.
D. I can benefit from my mother's or father's insurance until I'm 20 if I'm in high school and 25 when I'm in college.

In the USA, in 2006 and 2008, 40% of respondents answered this question correctly. Three of the participants selected the wrong option B, one wrong option A and one of them is chosen correct option D.

Question 3. Ahmet receives 2000 TL salary per month. He pays 1000 Liras for home rent. He has got 300 Lira kitchen costs. There are 200 Lira transportation costs. He gives 100 Lira pocket money to his brother studying at the university every month. Since Ahmet has no other expenses, how much time does he save 10,000 Liras?

A. 20
B. 25
C. 30
D. 35

In 2008, 60.2% of respondents answered this question based on simple mathematics. All participants chose the correct option B.

Question 4. Elif and Mustafa are the same age. When Elif turned 25, she decided to save 2000 Lira per month. Meanwhile, Mustafa does not want to save. When they reach the age of 50, when Mustafa retires, he realizes that he will not have any savings and decides to save 4000 Lira per month. Elif is still saving 2000 Liras. Since both of these days are 75 years old, which is true for Elif and Mustafa's savings?

A. The total amount saved by both is the same.
B. Mustafa’s saved is more because, he has saved more money every month.
C. Elif’s saved is more because she has saved the money more longer time.
D. Elif’s money is more because her money has remained at compound interest rate for a longer time.

Two of the participants chose C which one is the wrong option. One of the participant chose A, which one is the wrong option. One of the participant choose D, which one is the right option.

Question 5. Mehmet will start university next year. He has 10000 Liras which he has accumulated during summer vacation. Mehmet wants to keep this 10000 Lira until he starts university. Which is safer for Mehmet?

A. Storing in a secret place at home.
B. Take stock from the stock exchange.
C. Receive government bonds.
D. Deposit into the bank account.

In the USA, 87.7% of the respondents answered the question correctly. Three of the participants who participated in the study chose the wrong option D and two of them chose the wrong option B. As a result, none of the participants chose the right option.

Question 6. Match the following currency symbols to the currency units.

- € American dollars
- £ Kuwaiti Dinar
- ¥ Ruble
- $ Chinese Yuan
- £ Sterling
- € Euro
- $ Turkish lira

All the participants answered this question correctly.
6. Result and Conclusion

It was observed that the individuals of Generation Z who did not know the concept of human capital or did not understand the importance of human capital. According to the participants, the fact that the person has developed himself is not an advantage over his competitors.

It can be said that the participants' knowledge of health insurance is extremely limited. Insurance policy implemented in our country is of great importance for this. Unlike the United States, young people are not very knowledgeable in this regard because there is an insurance obligation in our country.

The aim of the third question is the ability of simple mathematical calculation. All of the participants answered this question correctly. This shows that basic mathematical skills have improved.

Participants do not know the relationship between savings and interest. The reason for this is that they have not yet started to earn income and are unfamiliar with the savings evaluation processes. It would be wrong to say that participants have full knowledge of issues such as stocks, bonds and interest.

All participants participated in the study, recognizing the most used currencies in the world.

References


An Assessment on the Financial Literacy...


INCENTIVES FOR SMALLHOLDERS TO BE ENTREPRENEURIAL: EMPIRICAL EVIDENCE FROM SELECTED IRRIGATION SCHEMES IN KWAZULU-NATAL, SOUTH AFRICA

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Abstract

Enabling on-farm entrepreneurship is an important step to enhance the contribution of smallholder irrigation to rural poverty reduction in South Africa. Using psychological capital as a proxy for entrepreneurship and data collected from 458 smallholders in and around irrigation schemes in KwaZulu-Natal, the study empirically examines the available incentives (and lack thereof) affecting smallholder engagement in entrepreneurship activities. Findings show that access to social grants and interaction with existing social networks provide incentives for farmers to climb the entrepreneurial ladder. Even though social grants are meant to meet the basic needs of recipients, if used to finance agricultural activities, they positively impact entrepreneurship. Factors inhibiting entrepreneurship in the context of smallholder farming include experience in farming, consumption credit and land tenure insecurity. Experienced farmers are not willing to take more risks and are frustrated due to the lack of progress in performance. The study recommends the mentorship of young smallholders by experienced commercial farmers to support the growth of entrepreneurship in smallholder agriculture and succession planning. Access to credit should be directly linked to agricultural production through input vouchers and value chain financing. Congruency in policy design is needed to ensure that social protection and rural development policies continue to support each other. Addressing land tenure issues and access to other complementary services will enhance on-farm entrepreneurship in the smallholder agriculture sector. Promoting social interaction through networking and support for mentorship programmes will also result in positive entrepreneurial behaviour.

Keywords: Smallholder Farming, On-farm Entrepreneurship, Social Grant, Access to Credit, Psychological Capital.
VALUE ADDED FROM SUPPLIER MANAGEMENT THROUGH THE USE OF ADEQUATE SOURCING STRATEGIES

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Abstract

Manufacturing companies use suppliers to best serve the ever-shrinking innovation cycles and fast-moving markets, as well as volatile market demands. In this way, suppliers influence the company and product strategy and, in addition, are closely or even partially involved in processes of their customers. The selection, the development and the management of the suppliers is thus of great importance, which focuses on purchasing in coordination with the technology. It is therefore important that there are a sufficient number of efficient supply partners who are able and willing to cover the requirements holistically and sustainably support the strategy of the own company. The strategic use of Sourcing Strategies opens up many possibilities and consequences with regard to targeted Supplier Management in terms of geography, number of suppliers and vertical cooperation intensity. Therefore, the Value Added and the Success Factors as well as the limits of a holistically oriented Supplier Management are asked in the context of expert interviews. Purchasing with suitable suppliers has to support the many requirements of the own company for optimizing Value Added. It is important to ensure that alternatives are available as far as possible within the framework of functioning risk management. Sourcing Strategies support this and can represent the implementation of the purchasing strategy synchronized with material group management. In addition to the achievement of direct cost reductions, which continue to be the most important contribution from Supplier Management, the assurance of delivery performance and delivery quality are crucial in order to fulfill the right to exist as a supplier with a long-term focus.

Keywords: Sourcing Strategies, Success Factor, Supplier Management, Value Added, Value Contribution.

1. Introduction

The targeted and strategic use of Sourcing Strategies has become very important in recent years, especially in connection with the application of material group management (cf. Rüdrich et al., 2004, pp. 13ff.) in order to be able to further promote and professionalize Supplier Management. The focus of companies on core competencies and the increasing shift of Value Added-activities to suppliers or specialists are accompanied by the expectation that suppliers will generate higher Value Contributions for the own company in the future in order to sustainably increase the value of the company and to shift risks in parallel (Hofbauer et al., 2015, p. 3). According to information from the Federal Statistical Office in Germany, the share of material consumption, including merchandise and wage labor in the gross production value is on average 58.0% and in mechanical engineering 53.9% (Federal Statistical Office, 2018, p. 278 & p. 301). The largest cost block in the manufacturing industry is thus caused by the material costs. This explains the need for efficient and systematic Supplier Management (Jäger, 2009, p. 66; Hofbauer et al., 2012, p. 35; cf. Hofbauer et al., 2015, pp.11f.; Czaja, 2009, pp. 23f.; Carr & Pearson, 1999, p. 500; Boutellier & Wagner, 2000, p.27; Hess, 2008, pp. 261ff. &pp.418f.; Hess, 2011, pp. 77f. and various other authors; cf. Gabath, 2011, pp. 20 ff. and Koppelmann, 2004, pp. 403ff. on risk management; cf. Roodhooft & Konings, 1996, pp. 97ff. on supplier selection; cf. Van Weele, 2009, p. 17 on supplier integration; cf. Wagner & Krause, 2009, pp. 3161ff. on supplier development).

The objective of this study is to identify the importance of Supplier Management activities by purchasing in order to create Value Added for the company. Contributions can be both qualitative and quantitative in nature as well as on the cost or revenue side. For this purpose, expert interviews with involvement of purchasing representatives who have many years of experience have been conducted in manufacturing companies. It emerged that the perception of cost responsibility by purchasing is
particularly important and good saving results reflect the right to exist of the function. In addition, ensuring delivery and quality performance is of great importance, so that purchasing contributions to increase company value go beyond direct cost reductions.

The remainder of this paper is organized as follows. Section 2 discusses the different kind of Sourcing Strategies and also aspects concerning importance of competencies. Section 3 describes the structure and realization of the expert interviews as well as the objective with regard to the findings from the questions. Section 4 explains the results of the interviews. This paper concludes with Section 5 - with conclusions and derivations - from the respective findings.

2. Sourcing Strategies as Value Boosters

Sourcing Strategies have a major impact on the supplier structure and thus on the generation of Value Added. They can be differentiated according to geography, number of suppliers and vertical cooperation intensity (Appelfeller& Buchholz, 2011, pp. 111ff.; cf. Ivanov et al., 2017, p. 106).

In terms of geography, one option is to define the world as a possible procurement market. The application of this strategy is referred to as global sourcing. The reasons for this can be either technology-induced or cost-induced or both (Lechner, 2012, p. 133; Lechner, 2011, p. 152). The other extreme is local sourcing, which focuses on sources of supply in the company environment. However, it is not well-defined geographically and therefore represents a smooth transition to strategies such as regional sourcing (e.g., Euro sourcing) and domestic sourcing (cf. Appelfeller& Buchholz, 2011, pp. 117ff.; Präuer, 2017, pp. 269ff.; Ivanov et al., 2017, pp. 107ff.; Hess, 2008, pp. 193ff.).

For companies with a global footprint, it makes sense to purchase around the world to gain benefits from the global footprint in purchasing and procurement. Possibly in some cases, local content quotas must also be met in order to be able to enter certain sales markets at all. With cost driven motivations for global purchasing activities, the focus on Total Cost of Ownership is increasing and driving the move from low cost country sourcing to best cost country sourcing and best value country sourcing, all with sustainable effects in mind. In addition to the prices, opposing effects such as expenses due to more complex logistics and higher control expenses, quality and quality assurance costs, flexibility and inventory costs or risks as well as the protection and management of know-how and intellectual property are decisive factors. Here, companies need to consider whether the opportunities outweigh the risks and what are the consequences of global sourcing activities, which may have an impact on customer purchase decisions, product policy and product positioning, in addition to desired cost reductions (Appelfeller& Buchholz, 2011, pp. 112ff.; Ivanov et al., 2017, pp. 107ff.; Präuer, 2017, pp. 269ff.; Hess, 2008, pp. 198ff.).

It is also important to install a global sourcing process in the company, which is implemented in line with the purchasing strategy. Figure 1 shows an example of the process that starts with pre-analysis, before moving on to concrete activities and processing them step by step.

Source: (cf. Appelfeller& Buchholz, 2011, p. 114)

Figure 1. Global Sourcing Process

Documentation of the interim results is appropriate in order to be able to clearly record the respective process progress for the interface partners. Many companies, such as the DMG MORI Group, for example, has tailored the global sourcing process to their own needs and integrated them sustainably into the purchasing strategy (see Figure 2).
With regard to the number of suppliers and the vertical intensity of cooperation, it can be seen that in various strategies, these two criteria are closely linked, e. g. in system sourcing and modular sourcing because strategic decisions made by the company limit the number of potential suppliers. The basic prerequisite for Sourcing Strategies (exception: single sourcing) is the availability of potential suppliers (cf. Appelfeller & Buchholz, 2011, pp. 119ff.; Wildemann, 2002, pp.5ff.; Gabath, 2010, pp. 78ff.; Appelfeller & Buchholz, 2011, pp. 190ff.).

The individual suppliers or the materials to be procured can be classified according to leverage, standard, bottleneck and strategic suppliers or materials in order to enable efficient control of the purchasing volume with standardized procedures (Wildemann, 2002, pp.5ff.; Gabath, 2010, pp. 78ff.; Appelfeller & Buchholz, 2011, pp. 190ff.).

The decision for one of the two extreme features - single sourcing and multiple sourcing - allows conclusions about the intensity of cooperation with the suppliers (Droege & Comp., 1998, pp. 66ff.). When working with just one supplier, the collaboration must be much closer than in the presence of multiple suppliers. The larger the number of approved suppliers, the sooner these suppliers can be replaced without much effort. It has proven itself in practice to qualify, if possible, at least one second supplier (dual sourcing) in order to have an alternative available at short notice and to act flexibly. It is different with sole sourcing due to a monopolistic seller’s market. A relationship with such a supplier is without alternative and may not have been voluntary. Here it makes sense to develop alternative sources or work out other technical solutions in order to escape the possibly involuntary dependency relationship (Appelfeller & Buchholz, 2011, pp. 119ff.; Wildemann, 2002, pp.5ff.; Gabath, 2010, pp. 88f.).

In contrast to the sourcing of components and raw materials, cooperation with suppliers can also be characterized by the fact that a considerable part of the Value Added is the responsibility of a supply partner. In addition to the aggregation of components into assemblies and modules (modular sourcing), this can also lead to the transfer of specific research and development tasks (system sourcing) and to the fact that the supplier is closely integrated into the processes of the own company (Appelfeller & Buchholz, 2011, pp. 123ff.; Droege & Comp., 1998, pp. 77ff.; Präuer, 2017, pp. 268f.; Gabath, 2010, p. 89).

Likewise, forward sourcing has an impact on Value Added. To secure the market position with innovative products, research and development resources must be regularly used. Due to the variety of possible technologies and limited resources, the involvement of suppliers who are specialists in their segment makes sense or is sometimes even inevitably if dedicated know-how does not exist in the own company. Not only development costs and complexity can be outsourced, but development times can be shortened as well. Faster product availability can thus lead to faster generation of returns. Purchasing as the main interface to the supplier must find adequate supply partners in this regard who can contribute to the development process in the own company or carry out this process on their own responsibility or in accordance with the specifications. The aim is to realize an improvement of the Source: (cf. Lechner, 2006, p. 210 & 2011, pp. 144ff.)

Figure 2. Global Sourcing Process of DMG MORI AG

Generating the Value Contributions that a company cannot achieve on its own requires combining the flow of information at the interface between the customer and the supplier. However, this condition is not sufficient. Collaboration requires a cross-company understanding of the process and is based on a business relationship characterized by trust and openness (cf. Bacher, 2004, p. 216 & p. 299; cf. Hess, 2008, p. 294). The dependence on suppliers through process relocations offers many opportunities, despite increasing complexity, when the aims and interests of cooperation are synchronized.

The change in the supplier structure is a consequence of the optimization of value creation and the increasing focus on core competencies (Prahalad & Hamel, 1990, pp. 79ff. & 2006, pp. 275ff.; Hungenberg, 2014, pp. 149ff.) to maintain competitiveness. The transparency in the global procurement market also means that in most cases companies can find at least one external source of supply as an alternative to in-house production. If the decision is made for an external solution, determining the interface to the external partner is important in each individual case, because the requirements of the supplier are different depending on the supplier and sourcing strategy. These aim at the respective existing strengths of the supplier, so that the optimal supplier structure can be built up taking into account all opportunities and risks (cf. Appelfeller& Buchholz, 2011, pp. 123ff.; cf. Hess, 2008, pp. 122ff.). The supplier pyramid in Figure 3 shows the possibilities or stages for vertical integration in the overall system.

![Supplier Pyramid depending on the Value Added](image)


Figure 3. Supplier Pyramid depending on the Value Added

The further 'above' the supplier is to be classified in the pyramid, the tighter the tendency tends to be between the supplier and the company. This insight is important because, due to increasing integration, the supply relationship may require specific Supplier Management. However, statements about a different weighting of achievable Value Contributions are not possible on the basis of the supplier pyramid or the level. But the idea of developing a functioning business relationship from a 'lower' level to 'up' is becoming more and more urgent.

3. Methodology and Research

The expert interviews were conducted between December 2017 and January 2018 in the companies of the interview participants. These were partly structured interviews, since a partially standardized interview guideline was used (Döring&Bortz, 2016, pp. 358ff.). The interviews lasted between 60 and 90 minutes. The statements were logged by the interviewer in parallel with a laptop. Each of the
discussions was a four-eye conversation. The advantages of the expert interviews are above all the short-term scheduling and feasibility. The expert discussions were conducted to verify and complement a written survey. Through the interviews, further information on the given topics could be generated. The guideline was used for orientation. Due to the given structure, the free answers of the respective interview partners can be compared. However, the interviewer had to decide by himself how intensively he would ask for the respective answers or in which direction he wanted to direct the conversation. Ultimately, the specialist competence of the respondent is very important (cf. Döring, & Bortz, 2016, p. 360).

Through the use of this method further valuable insights, assessments and suggestions could be brought to experience on some topics, so that the 13 expert interviews conducted on the whole proved to be sufficient. In order to receive qualified feedback, explicitly experienced purchasing representatives were addressed. In addition, it must be clear that the company belongs to the manufacturing sector. This industry focus has been chosen because the requirements of different industries sometimes differ greatly. The classification or sector affiliation is carried out according to the definition of the main industrial groups of the European Community (Commission of the European Communities, 2007, pp. 4ff.). Furthermore, due to the query of the sales figures or the purchasing volumes, a different behavior between small and medium-sized enterprises (SMEs) and groups may be derived. The definition of SMEs is based on the Recommendation of the European Union (Commission of the European Communities, 2003, p. L 124/39), which was also based on the Institute for SME Research Bonn in terms of turnover; the further gradations are determined on the basis of personal experience. The purchasing volume is based on an average material quota of 50% and is classified analogously to sales. However, it is highly industry-dependent. The question of connecting purchasing within the organization allows conclusions to be drawn about the strategic importance and classification of the purchasing.

The 13 purchasing representatives participating in the expert interviews each have a purchasing experience of more than ten years. 92.3% (12) have completed their studies. In each company, all stated that they held a managerial position. Of the participating companies, 76.9% (10) were from the industrial goods sector (all mechanical engineering) and 15.4% (2) from the intermediate goods sector; one company belongs to the consumer goods sector (7.7%). 84.6% (11) of the companies generate sales of less than € 5.0 billion. The purchasing volume for all companies is less than € 2.5 billion. For all companies, purchasing is linked to or represented in the Executive Board, the Management Board or C-Level.

Furthermore, it was found that none of the interview participants had fundamental difficulties in understanding the interview questions. The interviewer was able to eliminate any ambiguity arising from additional explanations. In addition to the discussion of the individually completed questionnaires and the presentation of the first evaluations on the topics of savings, opposing effects, supplier reduction and Sourcing Strategies, the experts were asked nine questions in the sense of a guideline interview (Döring & Bortz, 2016, p. 360) which were individually answered or discussed and are closely related to the research project. In the context of these expert interviews, further insights into the Value Added, the Success Factors and the Value Contributions on the part of suppliers are to be gained, as well as the limits of a holistically oriented Supplier Management.

4. Results from the Expert Interviews

When interpreting the results, it must be taken into account that the expert interviews are the collection of opinions and experiences of the participants. The findings gained from the expert interviews possess a high degree of subjectivity, which is incorporated into the results of the investigation.

4.1 Kind of Value Added

The purpose of this question is to find out what are the most important points from the point of view of purchasing, which add value to the own company when working with suppliers.

What kind of Value Added does comes from suppliers in detail to increase the value of the company?
Value Added from Supplier Management...

In this question, the most participants first mentioned the topic of cost reductions. It is easiest to measure and brings short-term result effects. Expectations of supervisors or other functions to purchasing are very high in this respect. The aims are usually redefined every year. In addition, the topics assurance of supply and quality improvement are mentioned as further important points. A high level of delivery reliability is important, especially if the economy is good, because it partially takes on the highest importance. Covering through the build-up of inventories is not wanted because it does not protect against missing parts, but causes additional capital costs. Good quality on the part of the suppliers is expected and is basically out of question. Some companies have processes in place for reimbursement of quality costs or follow-up costs to suppliers if ‘poor deliveries’ lead to additional production costs, but this is not compulsorily demanded. The fourth point was the early involvement of suppliers in the product development process when innovative products or contributions from suppliers positively support in-house product development. In some cases, holding technology days or open innovation will further consider other options to gain supplier expertise. Other issues, such as the compensation for missing internal capacities through the use of supplier services and the optimization of payment terms as a contribution to company financing, are only mentioned on a few occasions.

4.2 Critical Success Factors

At this point, the Success Factors are asked, on the basis of which the generation of Value Added is possible in particular and which are classified as significant in the context of cooperation with suppliers. The question is important because it may help to find clues that fundamentally influence the generation of Value Added.

What are the critical Success Factors of Supplier Management in the context mentioned above?

The critical Success Factors can be influenced by the supplier and by the own company. On the part of the supplier, it is important to adhere to the agreed delivery dates and the agreed delivery quality as well as to implement ideas quickly, so that advantages in terms of customer orientation also arrive at the customer. The supplier should bring in the required know-how in a targeted manner in the business relationship and take advantage of the given opportunities. It also helps a lot if the supplier’s financial resources are good and a long-term partnership is the goal. Nevertheless, the overall cost perspective that is expressed in supplier evaluations is important. Emerging difficulties and problems should be resolved promptly between both partners in the sense of an open communication, which means, it's important to talk to each other. However, the own company must also make appropriate contributions with regard to critical Success Factors. An important point was the adherence to the agreed terms of payment as well as an uncomplicated management of the supply relationship (‘one face to the supplier’). In addition, Success Factors include the purchasing volume, value creation or own depth of Value Added, know-how and available capacities in the company, reliability, relationships and the targeted use of Sourcing Strategies. However, the greatest importance is attached to the intensification of supply partnerships, as negotiating is becoming more difficult and due to the increasing digitization and automation the willingness to change is decreasing.

4.3 Quantification of Value Contributions

It is important for purchasing to present successes and contributions to the company's results simply and transparently. Not only are quantitative contributions clearly understandable, but equally important when it comes to approving investments or hiring additional employees. Therefore, the following question is asked.

How can the contributions from Supplier Management be determined as quantified as possible?

The contributions that can be quantified are diverse in nature, but not consistently financially assessable. Similarly, some contributions in companies are not recorded. This is because key figures may not be determinable without appropriate effort, do not play a significant role in certain companies and are deliberately not measured or have not yet been recognized as an interesting parameter.

The 'classics' among the quantifiable contributions are the direct cost reductions, which are due to competition, standardization, equal parts or other scale effects and technical changes. In some cases, contributions are adjusted for currency or raw material price fluctuations and one-off expenses, and price, raw material or currency developments are considered in parallel. One-off effects from bonuses
or discounts are also taken into account as a direct cost reduction, even if they materialize only at the end of the year or the end of the project. Cost avoidance effects against offer from negotiation as well as effects from unexploited budgets are shown separately for some companies; however, some companies do not accept this effect as purchasing success. Another key financial indicator for some of the companies is the interest effect of payment terms for short-term payment or extension of the net-payment term and inventory cost changes, in order to advance inventory optimization or to transfer more stocks to supplier warehouses. With regard to ensuring the assurance of supplies, most companies measure adherence with the agreed delivery times as well as the delivery accuracy with regard to the time of delivery (confirmation of the supplier or desired date of the own company) and the delivered quantity. Depending on the delivery window, this results in corresponding on-time delivery quotas, which in some cases are subject to penalties in the event of a large deviation. This can also cause additional expenses in the own company, which may be charged to suppliers. Another important point is the measurement of quality rates and supplier quality. Here, too, there are quotas and possibly additional expenses that allow statements about the quality performance or are the basis for reimbursement of costs to suppliers. Some companies deliberately exclude ‘poor performer’ from future project participation.

In addition, there are various key figures that are used in individual companies to strategically control the purchasing volume. These include, for example, the share of global sourcing on the purchasing volume, the number of supplier reductions, the number and results of supplier audits, the development of certain cost drivers, the number of project launches without any problems, the coverage of the purchasing volume by frame agreements or the purchasing volume, which is handled electronically. Furthermore, the classification of suppliers in A-B-C as well as the number of purchaser’s hours, the number of orders per week and the investments in terms of make-or-buy decisions. Regardless of these many possible key figures, however, it makes sense for every company or purchasing department, in addition to the key performance indicators cost reductions, delivery performance and quality performance, to select the key figures that are best suited for the strategic management of the purchasing volume in order to maximize the contribution to the sustained increase in company value and ultimately as an overall consideration takes place.

### 4.4 Cost-Benefit Ratio

This question aims to identify the most important tasks of purchasing in conjunction with the available capacities.

**Which cost-benefit ratio can be derived from Supplier Management activities?**

The most important tasks for purchasing are the conclusion of price and conditions agreements as well as supplier selection, qualification, development and evaluation. Close cooperation with the departments, in particular with development, and with selected suppliers with regard to joint development projects as well as the generation of supplier innovations, is being widely implemented as an important Supplier Management activity. Opposing effects occur, but to an extent that is considered negligible compared to the benefits of Supplier Management. Apart from that, there are also internal expenses related to the management of resources, which are estimated to be on a similar level. Furthermore, it is advantageous that the build-up of fixed costs does not have to occur when suppliers are used. In part, costs such as quality costs are outsourced, which would otherwise occur internally. In addition, due to the collaboration with external partners, the way the work is done is usually more structured and better organized, which in the medium and long term leads to further professionalization and improved compliance with business processes. Make-or-buy decisions based on strategic or economic motivation as well as the handling of capacity peaks with suppliers and emergency strategies characterize intelligent companies. Suppliers are also needed to develop the own company further. However, the overall cost perspective should not be ignored.

### 4.5 Limits of Supplier Management

Furthermore, it is important to find out which points make Supplier Management more difficult and, as a result, it may not be possible to generate significant Value Contributions. The question thus addresses possible restrictions that play a role in this regard.
What are the limits of holistically oriented Supplier Management from the point of view of 'economic' action in relation to company value increasing?

The most frequently mentioned issues with regard to limits of Supplier Management activities are the market position and size of the supplier, the determination of specific Sourcing Strategies as well as employee-relevant points on the part of the own company and the supplier, in particular regarding capacity and know-how. Large suppliers have an own strategy, which deviates in part from the own company strategy, which may result in requirements that are not or not fully enforceable by the supplier. It is also problematic if restrictions from specified sourcing stipulations rule out possible alternatives. In addition to sole or single sourcing, this can also result from customer delivery instructions. The limits of holistically oriented Supplier Management can lie on the side of the own company as well as on the side of suppliers. For example, the own company attaches great importance to a high level of in-house production or provides too little capacity in terms of technology and quality so that the opportunities in purchasing cannot be properly perceived, a second source cannot be established or a change of supplier cannot be implemented. On the contrary, suppliers, for example, do not allow access to subcontractors, may not have a consistent compliance management system, are unwilling or unable to make significant investments, or do not improve delivery and quality performance to the desired extent. Finally, a poor supplier relationship or inadequate communication are other reasons for the limits of a holistic Supplier Management.

4.6 Optimal Number of Suppliers

The topic of supplier reduction has become a kind of 'permanent issue' because it is regularly discussed, but adequate solutions for achieving a sustainably optimal supplier base are not available. The following question therefore refers to this complex and is intended to provide additional insights.

How can the optimal number of suppliers be determined, taking into account constant market fluctuations?

The discussion of this question varies between the interview participants: Nearly 1/3 of the participants (4) rate the importance of the topic of optimizing the number of suppliers as high and drive activities forward; the second group (4) sees supplier optimization as a side issue and the third group (5) does not place any significant focus on corresponding activities. Regardless of this rating, a focus is on preferred suppliers, C-parts management, and common parts strategies. The topic of the optimal number of suppliers is thus closely linked to material group management, but usually not a priority goal in comparison to other tasks. The review of the supplier base in the companies takes place on an annualized basis with the adjustment of the purchasing and material group strategy. It is important to have the right suppliers on board in order to be prepared for the future which means that new suppliers may have to be set up, too. The implementation of phasing out strategies is sometimes difficult (active phasing out) and tedious (passive phasing out) if there is no focus on it, no capacity available or spare parts availability has to be secured. Crucial are the status quo and the performance level of the current supplier base as well as the ability to master the future challenges. Only one interview participant stated that he had set a quantifiable target with regard to optimizing the number of suppliers via the proportion of A-suppliers.

4.7 Effects from a Close Customer-Supplier Relationship

Not every customer-supplier relationship is the same. Differences may arise due to close personal contacts, due to long-term and good cooperation (more than five years without major difficulties), may involve a higher intensity and / or be characterized by intense trust. The tighter this connection is, the lower the willingness to switch may be, although benefits are offered by other potential suppliers.

Which effects do come from a close customer-supplier relationship?

12 of the 13 interview participants (92.3%) work with at least one supplier to whom there is a close relationship. Overall, relationship management is seen as very important because ultimately the business is done by individuals. It is also a good basis for cooperation when companies have a similar culture. Nevertheless, even in close relationships rational decisions are the order of the day: the fundamental separation of both topics (thing vs. relationship) is absolutely necessary. Sufficient communication with the supplier and a good internal vote is indicated. However, too close
relationships should be avoided or, if necessary, pursued by companies. Of course, there are also counter-transactions between the partners, but this has nothing to do with compensation transactions, etc. The quality of a close and long-term business relationship, as with any business relationship, is also considered in terms of past performance. Nevertheless, the performance must be repeatedly proven and provided again. Therefore, in close business relationships, decisions are deliberately made jointly by multiple functions and, as far as possible, consensus should be the result. In particular, this is the case if commercial principles e.g. at low price differences, would be overridden. With large price differences and in particular with large quality and logistics problems, it will be decided independently of relations. In other words, although the tolerance limit for such suppliers is somewhat higher with regard to a change, it is always based on the overall cost perspective in order to ultimately have the right supply partners in the portfolio.

4.8 Power of Small Suppliers

It is not always possible to easily obtain a high demand from suppliers. Especially if the available capacities cannot cover the required demand. However, the following question does not relate to cooperation with large suppliers or exceptional situations with large suppliers, but to cooperation with relatively small suppliers, which are important and irreplaceable solely on the basis of specific competencies. That is, a change of supplier is not possible and you have to arrange with the supplier if necessary.

Which ‘power’ do ‘small suppliers’ have?

12 of the 13 interview participants (92.3%) work with at least one such supplier. All (12) implement special measures regarding the management of these suppliers with regard to tight control, intensification of dialogue and establishment of the connection from management to management. The biggest risk seen by such suppliers is the rapid penetration of supplier problems to the customer. Therefore, risk management is given a high priority and, if possible, an alternative second source is built up quickly. That is not always possible; in part, for cost and capacity reasons, this is also only considered when the business relationship no longer works. Other approaches, such as company involvement, a formal development partnership, long-term contracts or the granting of pre-emptive rights, if the competence of the supplier is crucial for the own company, are an option, too. In addition, purchasing must be vigilant in the context of ‘daily management' so that it is involved early in all important issues to prevent orders from bypassing purchasing.

4.9 Additional Remarks

Finally, the interview participants were asked a last question in order to obtain any insights that were not addressed in the previous interview process.

What else would you like to say about ‘Supplier Management vs. company value increasing’ what we have not yet addressed?

Some participants explicitly stressed the topic of digitization or Purchasing 4.0. In addition to the use of new tools, a closer exchange of data and an expansion of networking with the larger suppliers is expected. Likewise, the topic should also have an influence on employee development and qualification measures. Today, Purchasing 4.0 is essentially characterized by automated processes regarding order processing and the associated follow-up processes. The significant acceleration of the flow of information, especially between the company and its suppliers, should also increase the speed of innovation even further. There should also be more interactions between machines. Overall, it is expected that the importance of Supplier Management will increase as specific supplier know-how continues to be important. Strategic purchasing processes should gradually be automated and should change the work content in purchasing accordingly. An increase in Value Added through assembly procurement and increasing complexity should mean that the importance of availability remains just as important and suppliers may partly not deliver directly to companies. However, it is expected that purchasing will continue to focus on ‘optimizing direct material costs'.
5. Conclusion

The high volume of external Value Added by the suppliers in the manufacturing industry justifies the importance of Supplier Management and underpins the importance of making a lasting contribution to increasing the value of the company. Purchasing as the main interface to the suppliers has this responsibility and must drive the selection and determination of the supply partners accordingly. In doing so, purchasing must ensure that the specified suppliers can meet the diverse challenges of the own company. The targeted application of Sourcing Strategies supports these activities.

Derived from the main tasks of purchasing, the perception of price and cost responsibility comes first. Suppliers are, however, also confronted with high demands with regard to the quality of the products as well as the delivery performance (time-related). Fulfilling these requirements is a basic requirement for cooperation in general. Good quality and high delivery performance of suppliers are two key parameters on which to build a supplier relationship so that further steps can be taken towards close and long-term collaboration. In addition, it is expected that future collaboration with suppliers will tend to become even more intense and closer, so it can be assumed that relationship management will be favored over anonymity.

The benefit or Value Added of working with suppliers exceeds the additional expense, this means the opposing effects, obviously clear. It is therefore still very interesting for companies in the manufacturing sector to entrust suppliers with tasks in order to avoid higher structural costs on the one hand and to generate additional Value Added on the other hand.

Furthermore, it can already be seen that a development spurt comes from Purchasing 4.0. The increasing networking with suppliers means that process and information flow improvements not only contribute to cost efficiency, but also reduce processing times and generate faster sales. Thus, purchasing contributes sustainably to employment protection in the own company and at the same time is the engine for company growth in terms of gaining further market share.

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Value Added from Supplier Management...


DISTINGUISHING HYPOCRITICAL ORGANIZATIONS BY SROI

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Abstract

Not-for-profit organizations are nonprofit, independent organizations that promote public benefit. Public benefit is a similar concept to welfare. In economics, it is known that not-for-profit organizations have positive externality. Poverty, Inc. is an American film shown in cinemas in 2014 that won the Templeton Freedom Award in 2015. This documentary revealed that some “not-for-profit” organizations decrease welfare, and that this decrease in welfare is sustained by contributions to such “not-for-profit” organizations. Thus, in order to maximize welfare, contributors should distinguish such hypocritical organizations from genuine not-for-profit organizations and avoid contributing to hypocritical organizations. An accounting concept called social return on investment (SROI) developed some decades ago in the US is widely used in the UK in order to evaluate the extent of the impact of each not-for-profit organization on welfare. The guide for SROI was translated from English to many languages, including Arabic. However, traditionally SROI cannot be negative. Jevons used the concept of disutility. Ethics in SROI are based on utilitarianism. Bentham thought that ethics had to be constructed based on the sensations of pleasure and pain. Because the sensation of pain is in accord with disutility, utilitarianism is in accord with the concept of disutility. Thus, introducing the concept of disutility to SROI justifies SROI to be negative. While the concept of disutility may not be well-known, a few contemporary economists, including at least one economist in the Middle East, use this concept. If SROI of a “not-for-profit” organization is negative and profit-oriented, the organization is a hypocritical organization and not actually a not-for-profit organization. One of the limitations of this presentation is that it is not statistical, but theoretical. The claim that SROI can be negative should be verified statistically.

Keywords: Not-for-Profit Organizations, Hypocrisy, Accounting, SROI, Disutility.

1. Introduction

Not-for-profit organizations are nonprofit, independent organizations that promote public benefit. Public benefit is a similar concept to welfare. In economics, it is known that not-for-profit organizations have positive externality. Poverty, Inc. is an American film shown in cinemas in 2014 that won the Templeton Freedom Award in 2015. This documentary revealed that some “not-for-profit” organizations decrease welfare, and that this decrease in welfare is sustained by contributions to such “not-for-profit” organizations.

Thus, in order to maximize welfare, contributors should distinguish such hypocritical organizations from genuine not-for-profit organizations and avoid contributing to hypocritical organizations. The purpose of this presentation is to find a method to help contributors to distinguish such organizations.

This presentation assumes that hypocrisy impairs welfare. Independence may not decide if an organization that calls itself a not-for-profit organization is hypocritical or not. For an organization that calls itself a not-for-profit organization, profit seeking is a factor of hypocrisy. It is relatively easy to determine whether an organization is actually a profit-oriented or not if contributors check the cash flow of the organization. If the organization makes dividends, regardless of what the organization call them, the organization is profit-oriented. However, not all organizations that call themselves not-for-profit organizations and are actually profit-oriented are hypocritical, because some social enterprises that call themselves not-for-profit and actually profit-oriented may promote welfare. To be profit-oriented is not a sufficient condition but a necessary condition for a “not-for-profit” organization. Thus, contributors should consider whether an organization that calls itself a not-for-profit organization promotes welfare or not, which is a little difficult.
An accounting concept called social return on investment (SROI) solves this difficulty. There is some prior research aimed at determining which organizations are hypocritical according to SROI. Although McElwee and Smith (2015) advocate to use negative SROI in order to find profit-oriented entities that impair welfare, they do not explain the existence of negative SROI from the perspective of welfare economics.

2. Negative SROI

2.1 What is SROI?

SROI is one kind of return on investment (ROI) and was developed some decades ago in the US. SROI calculates the utility brought by each not-for-profit organization in a monetary amount. SROI is widely used in the UK to evaluate the extent of impact by each not-for-profit organization on welfare and efficiency. The traditional SROI guide was translated from English to many languages including Arabic. Traditional SROI defines the net SROI ratio as (1):

\[ \text{Net SROI Ratio} = \frac{\text{Net Present Value}}{\text{Value of Inputs}} \]

There are evaluative SROI and forecast SROI. The Impact Multiple of Money (IMM) is a new variation of forecast SROI. Unlike traditional SROI, IMM is calculated by someone outside the not-for-profit organization. SROI is a strong tool for contributors.

However, traditionally SROI cannot be negative. The traditional SROI guide did not think SROI can be negative. Addy et al. (2019), which seems to be the official explanation by the developers of IMM as three of its four authors are partners of the developers of IMM, also does not mention that IMM can be negative.

2.2 Can Negative SROI Exist?

To determine whether negative SROI can exist in practice, two problems should be considered, whether SROI can actually be negative, and, if so, whether negative SROI can be reported.

Historically, Jevons used the concept of disutility. Ethics in SROI are based on utilitarianism. Utilitarianism is sometimes used in welfare economics, and total welfare in utilitarianism is defined as (2):

\[ W = U_1(\cdot) + U_2(\cdot) + \ldots + U_n(\cdot) \]

\[ U_i(\cdot) \] represents the welfare of person \( i \) and all variables are allowed to influence his or her welfare. Bentham, in his systematic consideration of utilitarianism, thought that ethics had to be constructed based on the sensations of pleasure and pain. Because the sensation of pain is in accord with disutility, utilitarianism is in accord with the concept of disutility. Thus, introducing the concept of disutility to SROI justifies the existence of negative SROI. When a situation with an organization that calls itself a not-for-profit organization is 2 and a situation without the organization is 1, net present value is as in (3):

\[ \text{Net Present Value} = W_2 - W_1 \]

If (3) is negative, the organization creates disutility. While the concept of disutility may not be well-known, a few contemporary economists use this concept to consider labor, and at least one economist in the Middle East uses it to consider environmental problems.

Most executives of organizations that call themselves not-for-profit organizations may hesitate to announce negative SROI. However, traditional SROI has a process of assurance, and assurance gives reliability to their SROI reports. Because the IMM is calculated by people outside the organization, executives' intentions do not influence the IMM, making it reliable.

If SROI of a “not-for-profit” organization is negative and profit-oriented, the organization is hypocritical and not actually a not-for-profit organization. Such organizations impair welfare. The bigger the absolute value of negative SROI, the more efficiently such organizations impair welfare.
2.3 A Loophole

The SROI guide somehow allows an alternative calculation\(^7\), though both the numerator of return on equity (ROE) and the numerator of return on assets (ROA) are the net amount. This alternative can serve as a loophole to hide negative SROI. This alternative is as in (4):

\[
\text{SROI Ratio} = \frac{\text{Present Value}}{\text{Value of Inputs}} (4)
\]

The numerator of (4) is the gross amount and is not influenced by costs. SROI ratio is higher than the net SROI ratio, making it harder for the SROI ratio to be negative than the net SROI ratio.

This alternative should be prohibited in order to abolish loopholes to hide negative SROI, and to prevent contributors from making contributions that impair welfare.

3. Conclusion

Negative SROI can exist from the perspective of welfare economics and the claim by McElwee and Smith (2015) is correct. Contributors should determine which organizations are hypocritical using SROI in order to maximize welfare.

One of the limitations of this presentation is that it is not statistical, but theoretical. The claim that SROI can be negative should be verify statistically.

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\(^{10}\)SROI Network (2012), p. 68.
Abstract

Among the most important factors that affect economic improvement in today’s world there are entrepreneurs and entrepreneurship. As the importance of entrepreneurship increased, so did the number of researches that aims to discover the personality qualifications of entrepreneurs, and the factors that affect entrepreneurship and intent of entrepreneurship. One of the area researched last years is youth/young labor market participants entrepreneurship. In this paper we examine this behavior in the area of international migration. The special stress is placed on the case where young entrepreneurs that has migrated from one to another country have set up the company. The migration can be point out as a method of joining the society.

In this study intention of entrepreneurship and the factors that affect entrepreneurship is tried to be explored with existing studies and a half-structured interview that was conducted with an entrepreneur that moved to Poland from Russia at a very young age and started his own business. The interview showed that unlike what most studies in the literature point out, education and family does not have an effect on intention of entrepreneurship. The research method used in the paper is semi-structured interview with the respondent. Participant was informed about the existence of a tape-recorder, but he was given the chance to listen to the recording and remove some points partly or completely in order to minimize the negative effects a recorder may create. The questions were established to find out the main motivation and determinants of his decisions.

Keywords: Entrepreneur, Factors that Affect an Entrepreneur’s Personality, Intention of Entrepreneurship.

1. Introduction

Entrepreneurial have started to be one of the issues that have been emphasized in recent years. Today, with competition gaining a global character, entrepreneurship has become an important research subject within the discipline of management. For the first time in the literature, Richard Cantillon used the word entrepreneurship in 1730s. John Stuart and the British literature is used in the 19th century. It is said to have coincided with the century (Çetindamar, 2002:33). The increasing importance of entrepreneurship is closely related to its vital function in terms of economic and social development. Entrepreneurship is also seen as an essential tool for the growth of developing economies. This phenomenon is recognized on a global scale today, including developed economies. (Zoltan vd., 2001: 23-245). Entrepreneurship is now a rising value of our age. More capital investment has been made over the past century, and the quality of entrepreneurship increased both in terms of quality and quantity compared to the previous century (Bozkurt and Erdurur, 2013: 58). It can be said that entrepreneurship has gained a greater importance in the world, especially with the transition from industrial society to Information Society. In today's information society, while the weight of human labor on production is decreasing, the weight of knowledge-based labor on production is increasing day by day. At this point, it can be said that the importance of entrepreneurship emerged as a complement to innovation, creativity and management activities. In addition, today, the global economy becoming more competitive can also be considered as other factors that increase the importance of entrepreneurship (Özkul, 2007: 344).

Entrepreneurship, because it is a dynamic force for the development of the economy, is of vital importance. It is not easy to set up and maintain a business. Entrepreneurs need courage, talent and
creativity together. Buddha is only possible thanks to entrepreneurs who have these factors. There are many factors that affect the intention of entrepreneurship. These include financial resources, education, role models, work experience, beliefs, family, culture and personality traits.

In this study, in order to detect the correspondence between the literature and the practice of intention of entrepreneurship and the factors that are effective in entrepreneurship, a half-structured interview had been conducted with an entrepreneur that moved to Poland from Russia at a very young age and started his own company. The results of the interview had been analyzed in detail.

2. Entrepreneur and Entrepreneurship

When the concept of entrepreneurship was first introduced, it was defined as attempting, starting a business and taking risks in that matter. Later, the definition was widened as putting forward an idea and transforming these ideas into products and services to be introduced to a market (Zhao, 2005:26). Entrepreneur, on the other hand, is defined as the person that puts forward ideas, turns them into reality and combines his/her own passion and creativity in the process (İrmiş and Barutçu, 2012:3; Kao, 1989: 91). Seeing and seizing opportunities, risking resources to capture those opportunities, transforming ideas into investments and creating what is desired in the end are among the features that make a person an entrepreneur and differentiates that person from all others. With these features, entrepreneur is defined as an innovative, creative, role model in economic growth who is a risk-taker (İrmış et.al. 2010:10). According to another definition, the most profitable entrepreneurs in order to produce goods and services that brought together the production elements under the conditions of the person. Take risks and implement the business project. The entrepreneur makes money, but also produces economic value. It also provides employment to other people. The combination of skills, knowledge and courage features creates the entrepreneur.

The concept of entrepreneur was first used in the literature academically in the 18th century by economist Richard Cantillon. According to Cantillon, entrepreneur is the person who faces indefiniteness while operating activities. In Cantillon’s entrepreneur profile, entrepreneur is the person who buys a product for a definite price, in a specific amount. However, the price and amount the entrepreneur would sell the product is not specified (Özden et.al., 2008).

Schumpeter, on the other hand, has embraced a perspective that focuses on innovative side of entrepreneurship. Schumpeter, the theory of Economic Development and Capitalism, Socialism and Democracy, and business cycles, one of the important economists of the century, tried to establish the dynamic mechanism of the economic system, and in doing so, gave a separate importance to innovation through entrepreneurs and entrepreneurs (Er, 2013: 76). Joseph A. Schumpeter (1883-1950) took a different approach, emphasizing the role of innovation. According to Schumpeter, the entrepreneur is someone who carries out “new combinations” by such things as introducing new products or processes, identifying new export markets or sources of supply, or creating new types of organization. Schumpeter presented a heroic vision of the entrepreneur as someone motivated by the “dream and the will to find a private kingdom”; the “will to conquer: the impulse to fight, to prove oneself superior to others”; and the “joy of creating.” (https://www.econlib.org/library/Enc1/Entrepreneurship.html)

3. Factor that Affect the Personality of Entrepreneur

Human behavior is determined and shaped with the influence of many factors. Biological factors being the factors that affect shaping of the character of a person as it is innate, behaviors that are dictated by the society and psychological effects also play important role in shaping personality of a person (Eroğlu, 2009: 201-202). In this sense, it has been concluded by many researches that while there are many factors that innately push a person to be entrepreneur, external factors are also highly effective in entrepreneur’s personality. Family, society, education and economic environment are seen as important factors that affect the tendency of entrepreneurship (İrmisand Barutçu, 2012: 3; ChenandLai, 2010: 10).
4. Intention of Entrepreneurship

Intention of entrepreneurship is said to have an important role in deciding to start a company. Many research and studies have been conducted in this subject. Entrepreneurship usually appears in accordance with the person’s desires and wants. Thus, it is a planned behavior that was intended in the first place (Naktiyok and Timuroğlu, 2009:85). In the literature it is argues that there are many factors that determine intention of entrepreneurship. Personal attitude, behavioral control, personality traits, gender, family and environment are said to be among these factors.

There have been different opinions regarding the factors that determine entrepreneurship. When literature is examined, it is seen that factors that determine entrepreneurship are divided into three perspectives. These perspectives are; individual perspective (the need for success, locus of control, tendency to take risks, behavior against indefiniteness, self-confidence, innovativeness, family, education, values, age, work experience, role models), environmental perspectives (social, political, cultural, economic, technological conditions, societal values and norms) and company perspective (focusing on activities within a corporation (Özdenvd., 2008: 5-7).

Recently, the most preferred perspective is the individual perspective. This perspective aims to explain entrepreneurship in a more psychological manner. Psychologically values, attitudes, experiences and unconscious effects on behaviors of an individual play an essential role in determining entrepreneurship. As psychological features self-confidence, risk-taking, motivation, patience, etc. are important as well (Özdenvd., 2008: 336-337). Factors determining the intentions of entrepreneurship have displayed difference with time. For many years, different approaches and study methods have been used to explain deciding to be an entrepreneur. Some researchers have looked into the personality traits that have a direct relationship with entrepreneurship. In other studies, different personality traits such as age, gender, belief, education, race, work experience have been examined for their relationship with intention of entrepreneurship (Liñán, 2004: 3).

5. Methodology

In order to detect the factors affecting entrepreneurship and intentions of entrepreneurs, a semi-structured interview had been conducted with an entrepreneur who has established his own business in Poland. Interview questions can be examined under three categories: “About Creation of Company”, “About Current Activity”, “About Future Plan”. Participant was informed about the existence of a tape-recorder, but he was given the chance to listen to the recording and remove some points partly or completely in order to minimize the negative effects a recorder may create. Participant was invited to an environment where he could feel peaceful and comfortable revealing his ideas and an appropriate interaction space was provided.

6. The Study

The questions of the interview were made up of three parts. The first part was “About the Creation of Company”, and the questions aimed to answer the following; how he decided to start his own business, what is the effect of his current education level in starting his business, did his personality traits have an effect on his intention to start his own business, how much did his family and friends contribute to his decision to start his own business, how did he manage to find the financial resources, what are the easiest and the hardest things about starting a business. He pointed out that he intended to become an entrepreneur at an age as early as 13-14. According to his claims, he has always had an interest in computers and dealing with computers made him happy; thus, he started an initiative in IT when the time and place was right. He emphasized that the most important thing when he started his own business was his personality traits. The most effective factors that helped him during his start-up are said to be his determination, eagerness, the fact that it was his dream, that he had a vision and that he did not want to work for anyone else but himself. While evaluating the easiest and hardest parts, he suggested that nothing was easy other than the application to start the business after everything was set to place. He pointed out that throughout the first years of his company, he did not have a financial gain, but he was expecting this. He suggested that he was ready to take risks. To start his own business, he explained that he had worked in several other companies to save money and gain
experience. While he explained his financial resources, he referred to the fact that Russia was not as helpful as Poland when it came to supporting entrepreneurs. As a part of European Union, Poland is said to be more supportive about entrepreneurship. When asked about the effect of his education in his intention of entrepreneurship, he said that he dropped out of high school and decided not to go to college and he pointed out that education was not the key to success or having a business of one’s own as it did not have a direct effect on practice. Although he did not continue his education, he kept on improving himself by reading books and doing researches on his own in order to have enough accumulation to start his own company.

Following interview questions were under the category of “About Current Activity”. The questions aimed to answer the following: did he have any employees that work for him, did the company offer innovative products or services and what are the current activities of the company. He said that he started the company individually, but as the company grew larger, he employed more people and eventually he formed a partnership with another company within the same area of jobs. What was interesting about the offered products and services was that the majority of customers wanted to have more specific, different and new products and services although classic services were also still preferred by some. He suggested that expensive does not always correspond to quality and that his goal is to provide quality service with a reasonable price unlike his competitors in the market. He claimed that he had been trying to outdo himself every year with innovative and creative products and services. He said that he was following every improvement in the market as lack of improvement meant the death of a company especially under current circumstances.

The final part of the interview was “About Future Plan” category. The aim was to have a gist of the participant’s future plans about his company. He mentioned that he had always planned to step up his company’s game ever since it was built, and he created a strategy to be followed for that goal to become reality. He also suggested that he follows the market closely for any improvement or change and aims to globalize his company in the future.

7. Conclusion

The semi-structured interview that was conducted with the participant was examined under three perspectives that were mentioned before with relation to factors that affect entrepreneurship and intentions of entrepreneurship. When individual perspective is taken into consideration it can be concluded that the need for success, tendency to take risks, behavior against indefiniteness, self-confidence, innovativeness, work experience, etc. factors were found to be effective while family and education remained ineffective. When environmental perspective is taken into consideration, political environment, economical environment and technological conditions were found to be effective as external factors. Finally, when company perspective is considered, it is found that although the firm is now a larger-scaled partnership, the number of employees and partners seem to be irrelevant to the entrepreneur’s intentions as he displays executive functions successfully.

As a result, it can be concluded that although the results of the interview have some similar features with those that focus on individual perspective as well such as that of Cromie (2000) and Crant (1996); however, it differs from some others such as Noel (2002), Balaban and Özdemir (2008), Özdenvd (2007) and Liñán et.al. (2011) in the sense that education is not always effective in determining the intentions of entrepreneurship. If examples are to be multiplied, it can be deduced from Steve Jobs’ speech at Stanford University (https://www.youtube.com/watch?v=1i9kcBHX2Nw) that education by itself is not enough. Sir Ken Robinson, who is a British speaker, educator, consultant and writer, said the following about education in his TED Talk in 2007:

“What we do know is, if you're not prepared to be wrong, you'll never come up with anything original -- if you're not prepared to be wrong. And by the time they get to be adults, most kids have lost that capacity. They have become frightened of being wrong. And we run our companies like this. We stigmatize mistakes. And we're now running national education systems where mistakes are the worst thing you can make. And the result is that we are educating people out of their creative capacities. Picasso once said this, he said that all children are born artists. The problem is to remain an artist as we grow up. I believe this passionately, that we don't grow into creativity, we grow out of it. Or rather, we get educated out of it.”
Conclusively, the study suggests that education and family factors do not have an irreplaceable effect on entrepreneurship and the intentions of entrepreneurship. Regardless, more general results can be reached with a wider range of participants.

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CUSTOMS UNION AND COMMON COMMERCIAL POLICY

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Abstract

Since 1995, when a Custom Union agreement has been signed between Turkey and the European Union, a fierce debate in Turkey is going on whether customs union and following common commercial policy are beneficial for Turkey or not. Sometimes this debate has turned to apolitical debate. As an underlying assumption, each trade agreement should be mutually beneficial for both sides. However, Turkey’s customs union with European Union is quite different than the other custom unions and common commercial policies. As a rule, when countries set a customs union they determine a common tariff policy. Secondly, they can determine some import restrictions using quotas. Thirdly, they determine a common policy against the third countries. Outside the union other free trade agreements covers generally the all members.

Turkey’s customs union and common commercial policy agreements have not contained these general rules. They had lacked the common trade regime. As time goes by, mostly under non-economic factors, the expected benefits from customs union have not seen along with expected full-membership. In another words, despite it continued, the expected benefits have become questionable.

In general, customs union is an incomplete approach if it should seen only as an international trade agreement. Agreement should contain the whole economic structure base on trade. Turkey’s agreement has covered only a limited area of industrial products and agricultural-based industry. It has not covered agriculture and service sector.

Generally speaking decision makers analyze the benefits of customs union and common commercial policy according to foreign trade volumes and trade ratios with respect to member countries. In the global manner, foreign trade volumes do not decline except some extreme situations. As long as national incomes increase, so as the foreign trade volumes. The benefits of trade in customs union and common commercial policy calculations are performed in another way. The most important point should be considered as ‘creating trade” and “managing its direction” of customs union. Creating trade means additional trade volume as a result of a decline in tariffs within member countries. Managing trade directions means that relatively cheaper import within member countries since customs tariffs abolished. One another positive contribution of customs union may be “sectoral concentration” so that the unit cost of production will be decline. This is particularly important for manufacturing industry.

Throughout this presentation, these three concepts of customs union, “creating trade”, “managing trade direction” and “sectoral concentration”, will be discussed for Turkey. It will be argued that Turkey has not benefitted enough from customs union, since; i) it covers a limited area of economy, ii) external asymmetry, iii) visa and transportation/logistic problems.

As long as unemployment rates are not declining, productivity gains are not enough and not sustainable, and income increases are not satisfactory, people question the benefits of customs union and common commercial policy in Turkey.

The outline of the presentation as follows: i) A short history of Turkey’s with European Union which taken both sides to a customs union and common commercial policy. ii) The articles of customs union and common commercial policy agreement between Turkey and European Union. iii) The change in trade between Turkey and the EU in order to understand gain from trade. iv) A critical discussion will be performed for Turkey’s customs union and common commercial policy.

Keywords: Customs Union, Common Commercial Policy, Gains from Trade, Turkey and European Union.
Abstract

In exploring the main determinant factors allowing the financial sector to play its decisive contribution for the effective management of the global challenges, including future crisis while aiming at achieving economic stability and sustained growth at the same time, our deep analysis has been dedicated to the main reasons of recent crisis and the required safe and sound strategy to be adopted in light of the global and national economic and financial challenges. We looked into our recent published studies and research works covering all aspects of financial crisis which resulted in two main determining developments; first related to the newly emerging revolution in economic science which brought to our governing public policies and financial systems happiness economics which is focusing on the human subjective as well as objective wellbeing, second related to the important financial developments represented by the emerging Islamic banking and finance system.

In exploring the main determining factors enabling the financial sector to play its resilient contribution for the effective management of crisis, our deep analytical works concluded with the need for adopting a new strategic vision composing of three main determining factors (Pillars). The three main pillars are composed of the adopted conceptual basis of Happiness Economics, Islamic Economics and the required International Financial reform based upon Crisis Knowledge base, which involves effective pursuance to the development of early warning system, and the required active response to various fields of financial technological advancement as stated by the fourth industrial revolution, while being in a continued state of worries about its possible negative human and financial impacts.

We believe that aiming at crystallizing a new strategic vision based upon our conclusion call for searching common understanding based upon defined pillars of our strategic vision for a new leading, social and human role for the financial sector in preparation for global changes and challenges.

Keywords: Financial System, Happiness Economics, Islamic Finance, International Financial Reform, Managing Crisis, Fourth Industrial Revolution, Central Banks.

1. Introduction

1.1 Motivations and Objective

My paper main topic is motivated by the resulting conclusions of many of my conducted studies as well as the conclusions of many other studies related to the continued periodical crisis in the global, regional and national financial systems. All these conceptual and empirical studies and this researcher practitioner experience created the belief on the urging need for a new financial regime to be created with ethical and human inclusion into its structure. This has been leading to explore the model on which financial regime could approach effectively the sustained growth and stability objectives and the management of future possible financial crisis. Many international and academic economists and financial experts and practitioners within the international and regional European economies gave analytical prediction about serious opportunities for expected crisis within the international and regional European economies.

Thus our main objective of this paper has been defined to formulate a new vision for alternative financial regulation system, equipped with most effective determinants playing their effectiveness in approaching their mission to achieving sustained growth while at the same time managing effectively crisis.

My approach is related and based directly upon my recent conducted researches about three main conceptual as well as empirical research topics (Three Pillars for our research analysis) which have
been focusing on how to manage economic, financial and banking crisis and the recent emerging science on the economics of happiness as well as the conceptual and practical role played by Islamic economics in managing crisis within regional and international financial systems1.

Our direction objecting the Economic Happiness Science role in approaching effective financial system management for crisis has been motivated by our deep researches and arising belief on this science decisive role in approaching effective management of economic and financial crisis within the final aim of approaching human wellbeing. It is of direct relevance to this what was stated by Carol Graham when questioned about the crisis impact on happiness during the first year of the last financial crisis of 2008:

Carol Graham statements based upon research surveys related to human wellbeing proved that financial crisis would be reflected badly on the psychological status of people and creates a state of fear about more unemployment, more business losses and uncertainty about their future standard of living. There is also a kind of a psychological effect that affects financial markets as well.

“people are risk averse and loss averse”………” An extra dollar of income does not make people as happy as a loss in a dollar of income makes people unhappy. So losing, or being afraid of losing, income and security has much more negative effects on happiness than do income gains”

“I think the uncertainty effects in this particular crisis are having probably quite strong effects on a lot people’s wellbeing”(Graham, 25Nov.2008).

These conceptual conclusions which are based upon practical empirical research and surveys, motivated our belief for initiating active research work into the economics of happiness role in managing crisis and explore how this science could be of feasible contribution to both cases related to instituting safe and sound financial system directed to achieving sustained stability and growth, and avoiding at the same time crisis, while minimizing their impact when happening.

Here we would shed light on the last speech presented by Mark Carney Governor of Bank of England as responding the creative thought which conducted plans towards the new financial aspirations requiring reshaping the regulatory role of central banks and mobilizing their capacity towards leading the required evolution and development in the financial sector, while focusing on the new financial role responding to the new economic and financial era requirements, he stressed upon the final objective for all planned policies to be by definition Human being Welfare;

“The new finance will develop for the new economy, not in isolation from it. Over the course of this year, Bank colleagues, led by Huw van Steenis, will explore these and other themes in roundtables, workshops and forums with a broad range of stakeholders up and down the UK. While we prepare for great change, we will be guided by one constant: to promote our mission the good of the people we all serve” (Carney (Governor of the Bank of England Speech), 2018).

Direct focus is intended to give highlights on the internationally well realized constructive role of Islamic Economics and Finance as proved in light of the last international financial crisis lessons.2

The ongoing revival of Islamic Banking and Finance and high annual growth in its regional and international banking activities and growing contribution have created the need for a clear, integrated picture of the contribution that Islam has to offer to realize the kind of wellbeing that it could achieve, and to counter the different problems now facing mankind, particularly in the economic and finance field. Of special interest is a strategy that would help reduce to manageable limits the macroeconomic and external imbalances that most countries around the world are now experiencing, and would yet enable them to attain full employment, remove poverty, fulfill needs, and minimize inequalities of income and wealth (CHAPRA, 1995).

1.2 Paper Approach

Our paper will be conducting required analytical research directed to achieve its defined main objectives including defining the main components of the required base for a new vision related to a financial system approaching effectively sustained growth and crisis management. The base is including the role of Happiness Economics in restructuring and managing financial crisis, Central Banks regulatory role and their new role responding to managing crisis within Human wellbeing welfare as their final objective, also the conceptual role of Islamic Economics in managing crisis in light of the last international crisis lessons, and the Role of International Financial Institutions with their coordinating role for managing crisis are explored.
The followed approach would be directed to respond to the following questions:

How deep Knowledge about crisis causes, impact and determining factors for managing them constitute the main prerequisite base for pragmatic approach for crisis effective management.

How the process of pouring the economics of happiness conceptions into the banking and financial sector with the central banks as the leaders for the financial sector, and all other players within this sector could be a determining factor in approaching effective management of crisis?

How could the new conceptual basis of the emerging Islamic Banking and finance system contribute to restructuring the institutional and financial international role of the international financial institutions and coordination between world regulatory institutions?

How could the new conceptual approach construct a financial system achieving governance in the regulatory system directed to effectively manage crisis. Based upon our analytical course responding to the above mentioned questions we will determine the direction we intended to pursue towards newly born effective financial system led by Central Banks.

1.3 Contents

1. To approach this paper objectives and respond to arising motivation it is found logic to analyze the following factors;
2. Knowledge Base for Crisis Determinants and their Effective Management
3. Role of Happiness Economics in approaching new effective regulatory financial human system.
5. Managing the Ongoing Fourth Industrial Revolution.
6. The Role of Islamic Economics and Finance in Crisis Management
7. Reforming the International Financial System
8. Concluding Remarks

2. Knowledge Base for Crisis Determinants and their Effective Management

The last international crisis erupted in 2008 which emerged first within the financial sector and developed into real economic crisis with its noticeable destructive impacts on most of the world countries’ economies. This crisis has motivated a large amount of research works, surveys as well as many workshops, expert group meetings, conferences and interviews with eminent intellectual pioneers and practitioners. Most of these works illustrated determining factors governing crisis causes, impacts, and derived lessons on how to manage effectively economies and financial sectors in order to neutralize their developments from falling into crisis, while mitigating their destructive and painful impacts on the human wellbeing.

Part of these scientific efforts shed lights on the impact of crisis on human wellbeing and happiness, other part pursued the emerging Islamic finance role within the regional and international systems as many signs emerged about its feasibility in managing effectively economies and financial systems and reflected favorably on the question of crisis.

My paper is a continuing research conducted by above mentioned circles on the crisis relation with human being impacts and the emerging role of Islamic banking and finance while aiming at approaching the required strategic vision for financial sector effective management of crisis (Beseiso, Op.cit.).

We can stress in the following the main important determinants of managing crisis as concluded by the last works on crisis lessons including our works (Ibid).

- Mismanagement of the economy and financial sector.
- Fastest technological progress in the financial markets investments with some uncontrolled financial technological activities including derivatives.
- Miss judgments by credit risks evaluating institution (Leman Brothers example)
- Weak system about early warning system.
- Weak role played by the international financial institution whether for formulating early warning system or for given advices to countries on how to managing the crisis.
A New Vision for the Financial Regulation System...

- Uncontrolled capitalistic regime as designed on the conceptual basis of for the conventional theories of Economics since Adam Smith invisible hand of the free market.
- Uncontrolled balance between the real economy activities growth and financial sector growth. This problem is thought to be solved within Islamic Economics and Finance system.
- Direct and indirect relations between crisis and happiness.
- Global and National Socio-Economic and Political regimes constitute a main determining factor for periodic crisis and huge human suffering as proved by continued conflicts, economic and military wars and ethnic disasters. The arising development of our current state of affairs contradict deeply with the human wellbeing and requiring new human socio-economic and political model.

3. Role of Happiness Economics in Approaching Effective Regulatory Financial Human System

Recent revolution in Economic Sciences reached the methodology and approach for happiness economics through joint objective and subjective wellbeing. This revolution gathered the tools of analysis used in economic and psychology sciences, motivated by the emerging need to approach human development not only through the conventional economics of Adam Smith invisible hand of free market and basing all theories on the objective of building wealth rather than socio-economic moral and political determinants for human happiness.

At the early beginning of economic science by Adam Smith the science centered on how to maximize production and consumption without directing attention to the question of poverty, distribution of income and sustained favorable environment. The main center of thought had been directed towards building the nation strength and free market. Such thought led to motivate imperialistic powers without caring about parts of the human society in the developing and poor countries.

"The failure of our theories at the macro and micro levels to recognize the existence of the poor leads to numerous types of policy failures both at the theoretical and at the practical levels."

The economic thought developed from Adam Smith free market to mercantilism to socio economic development, then to human development, and most recently to the Economics of Happiness which is defined as a historic revolution in the economic sciences which realized the integrated role of socio-economic, moral and political aspects of the human wellbeing development.

Considering human wellbeing not only considered to be the main objective for all governments but also its historic approved role in the rise and fall of civilization, promoting or decline of a society.

Ibn-Khaldun the Moslem Arab Philosopher and Socio-Economic Thinker introduced a cause and effect relationship into the discussion of historical phenomena. The Muqaddimah (his famous published scientific research) represented the result of this desire. It tried to derive the principles that govern the rise and fall of a ruling dynasty, state (dawlah) or civilization (‘umran) (Chamlou, 2013).

Ibn-Khaldun concluded in his analysis related to the rise and fall of civilizations that the rise and fall of civilizations closely dependent on the well-being or misery of the people. This resulting thought led the way to consider the human wellbeing as the main determining factor for approaching civilization and seems to have had a clear vision of how all the different factors operate in an interrelated and dynamic manner over a long period to promote the development or decline of a society.

3.1 The Economic Sciences Revolution about Happiness Economics – the Concept and Determinant

Revolutionary developments in economics are rare. The conservative bias of the field and its enshrined knowledge make it difficult to introduce new ideas not in line with received theory. Happiness research, however, has the potential to change economics substantially in the future. Its findings, which are gradually being taken into account in standard economics, can be considered revolutionary in three respects: the measurement of experienced utility using psychologists’ tools for measuring subjective well-being; new insights into how human beings value goods and services and social conditions that include consideration of such non-material values as autonomy and social relations; and policy consequences of these new insights that suggest different ways for government to affect individual well-being. (Beseiso, 2016)
In Happiness, emphasizing empirical evidence rather than theoretical conjectures, (Bruno, 2007) Bruno substantiates these three revolutionary claims for happiness research. After tracing the major developments of happiness research in economics and demonstrating that we have gained important new insights into how income, unemployment, inflation, and income demonstration affect well-being, Frey examines such wide-ranging topics as democracy and federalism, self-employment and volunteer work, marriage, terrorism, and watching television from the new perspective of happiness research. Turning to policy implications, Frey describes how government can provide the conditions for people to achieve well-being, arguing that a crucial role is played by adequate political institutions and decentralized decision making. (Ibid.).

3.2 The Happiness of People Guide Internationally Development Policies

The implication one may draw is that in countries where most people are not happy, there is economic underperformance and loss. In July 2011, the United Nations (UN) General Assembly proposed ‘the happiness of the people’ as a new measure to guide development policies. In April the following year, the UN launched the first meeting on happiness and wellbeing, presided over by the Prime Minister of Bhutan. Not long after, the first World Happiness Report (Earth Institute 2012) was published, pooling existing multi-disciplinary knowledge. This momentum, along with progress in data standards and collection, has led to the integration of happiness components into the Sustainable Development Goals for 2015–30, the successor to the Millennium Development Goals.

Various Socio-economic and political systems proved to have many gaps in responding to the human wellbeing including in economic field (sustained economic growth, full employment, sustained real per capita growth and stability), in the social and cultural aspects (ensuring an adequate level of social justice, education and higher education and ensuring basic quantitative and qualitative health services, social care) and moral (preservation of virtue, morality, religion and societies avoid corruption) and environmental pillar into development activities (establishing a green development projects committed to a clean environment requirements and preserving the rights of future generations), and the political aspects including; democracy, Democratic institutions provide the opportunity for the most disadvantaged groups in society to participate, institutionalize their rights, make choices, challenge public policies and hold Governments accountable, political freedom of choice, formation of political parties, free public opinion, judicial just system, freedom of speech, publication, and assembly; and Haqq al Karama, the duty to respect human dignity in social life.

All mentioned existing gaps within the application of world economic systems as resulting from the applied principles for conventional economic science and defined by the new happiness economics science led to the same financial and banking system practices. These human wellbeing gaps should be examined and addressed by the newly born financial system and within the proposed strategic vision based upon the leading regulating role of Central Banks.

4. The New Required Mission for the Financial Sector with Central Banking Leading Role

4.1 The Role for Central Banking and Financial Sector in Approaching Happiness

The current structure and practices of the banking and financial sector are impacting human wellbeing in a painful and noticeable suffering. Reference could be highlighted to illegal and inhuman exercises which should attract central banks utmost care to address these practices. It should be mentioned also that such practices exercised by the financial and banking institution were to a large extent responsible for the emerging regular crisis, particularly the last one of 2008 which reflected the practices of the newly designed financial engineering tools called derivatives and the financing practice directed to the real estate sector.

4.2 Effective Regulatory and Supervisory Framework

Central Banks could be playing their objected role through adapting all monetary policy tools, including discount rate, interest rates, reserve requirements and credit policies, as well as central bank
capacity as the main adviser for the government to the response in a conducive manner to the requirements and determinants of Happiness economics and wellbeing as defined. This mission relates to the products and policies and outputs of the Socio-economic, cultural and political system objecting human wellbeing.

This direction requires supervising and organizing the role of the financial sector towards a new leader of socio-economic, cultural projects priorities conforming to human development projects and building the stones for the strong base required for the takeoff towards sustained green development, stability and wellbeing. This means a strong role to be emerging to support and encourage the green projects including agriculture, food and water security, rural development directed to reach the poor and achieving equity among people and narrowing the Gap between the wealthy and the poor, support social projects related to Human capital and Knowledge economy (including education, higher education, training, health projects, cultural and social projects such as elderly services and needy students in schools and universities) supporting the role of universities in the community development activities. While responding to the fourth industrial revolution necessary requirements

Particular emphasis should be directed to restructuring and reorganizing credit policies which have been responsible with main contribution to the recent continued financial crisis including the last international economic and financial crisis of 2008.

4.3 Sustained Growth and Financing

One of the main cornerstones of effective socio-economic, political and cultural system including the financial system is its commitment to achieve sustained human wellbeing, with environment basic project ’component. Environment pillar includes: poverty alleviation, social integration, Sustainable management of Natural resources, foods and water security, and degradation and desertification. The financial sector whether on national or regional basis is considered one of the main players for the success of approaching sustained human development and wellbeing?

Within the context of sustainable development, effective principles for the green economy already existed, but they needed to be faithfully implemented in order to promote new jobs, markets and technology, and to achieve sustainable development. The Deputy Secretary-General of UNCTAD, in his closing remarks, stated that

“The world may actually be in pre-crisis mode, as greater challenges could yet emerge in the form of climate change and environmental crises. This would require countries to accelerate their transition to a green economy. In that context, further research was needed on the issue of subsidies and incentives for industrial transformation, and on finding a commonly accepted price for carbon.. Proposals were made for a financial transaction tax to finance a climate-change adaptation fund and for the use of public–private partnerships to leverage private-sector innovation and expertise with initial support from the State. Calls for a stronger State in developing countries was also made”.

5. Managing the Fourth Industrial Revolution

5.1 The Fourth Industrial Revolution

The world intensive technological system are entering the new age by the fourth industrial revolution with its four main effects on business—on customer expectations, on product enhancement, on collaborative innovation, and on organizational forms. The fourth Industrial revolution is building on the third digital revolution which used electronic and information technology and has been emerging since the middle of the last century.

“It is characterized by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres”. (Schwab,2016)

The fourth Industrial revolution represent as described by Klaus Schwab; “A technological revolution that will fundamentally alter the way we live, work, and relate to one another. In its scale, scope, and complexity, the transformation will be unlike anything humankind has experienced before. We do not yet know just how it will unfold, but one thing is clear: the response to it must be integrated and comprehensive, involving all stakeholders of the global polity, from the public and private sectors to academia and civil society” (Ibid).
Serious plans based on rethinking the adopted conventional approach for providing products and services should be approached by all parts of the financial sector institutions and regulators.

“Overall, the inexorable shift from simple digitization (the Third Industrial Revolution) to innovation based on combinations of technologies (the Fourth Industrial Revolution) is forcing companies to reexamine the way they do business. The bottom line, however, is the same: business leaders and senior executives need to understand their changing environment, challenge the assumptions of their operating teams, and relentlessly and continuously innovate.” (Ibid).

Economists such as Erik Brynjolfsson and Andrew McAfee while realizing various favorable expected impacts of the fourth industrial revolution on humans, however business community including industrialists and governments, began to raise a key economic concerns about inequality which represents the greatest societal concern as associated with the Fourth Industrial Revolution. This might be resulting in unfavorable impacts on human beings. These impacts relates to inequality particularly as caused by the disruption of labor markets caused by automation substitutes for labor across the entire economy(Ibid.).

The defined impacts of the third revolution led to income stagnation or decreasing for the majority of population in the developed high income countries. This impact resulted from the decreasing the demand for less educated and lower skilled labor while increasing the demand for highly skilled workers.

“This will give rise to a job market increasingly segregated into “low-skill/low-pay” and “high-skill/high-pay” segments, which in turn will lead to an increase in social tensions.” (Ibid.)

More worries has been expressed about the inexorable integration of technology in our lives on human quintessential capacities as proved by the arising increasing relationship with smartphones as a case in point (Ibid.).

5.2 Banking Sector and Technology

Creating synergy between IT and operations to ensure sustainability will be a key driver in the future success of the financial services sector and wellbeing.

The benefits of technology such as scale, speed and low error rate are also reflecting in the performance, productivity and profitability of banks, which have improved tremendously in the past decade. These mentioned benefits of technology would be reflected positively on human wellbeing.

Regulatory initiatives and organizing measures from the Central Bank as illustrated in the Indian case have also played a large role in the banking sector as follows (Beseiso, 2012);

▪ To enable the finalization of a framework for the delivery of basic financial services using mobile phones, the Cabinet Secretariat constituted an inter-ministerial group (IMG) in 2009.
▪ Banking Technology Excellence Awards were instituted in the year 2001 with a primary objective of encouraging and recognizing the excellence in implementation of Technology for better customer service, operational efficiency and expansion of banking services to the hitherto uncovered sections of Society.
▪ Financial inclusion, in recent years, has emerged as a major policy initiative. The Reserve Bank of India has significantly scaled up its efforts aimed at increasing the level of penetration of bank financing in the economy
▪ The government has set up two funds — the Financial Inclusion Fund to meet the costs of developmental and promotional interventions toward financial inclusion, and the Financial Inclusion Technology Fund to meet the costs of technology adoption.

5.3 Shaping the Future

As above mentioned, financial sector and regulators should be equipped with the technological effective base, human capacity and various related requirements aiming at controlling all impacts of the revolution which could remain under human controlled system.
“Neither technology nor the disruption that comes with it is an exogenous force over which humans have no control. All of us are responsible for guiding its evolution, in the decisions we make on a daily basis as citizens, consumers, and investors. We should thus grasp the opportunity and power we have to shape the Fourth Industrial Revolution and direct it toward a future that reflects our common objectives and values.” (Ibid.).

All preceding mentioned highlights on the possible impacts of the Fourth revolution motivate national and international collaboration and coordination between all financial institutions including legislators and regulator in order to approach the blessings of the revolution related to their mission, mainly with relation to the effective management of crisis and formulating defined plans, projects and policies to protect the financial sector from potentials of negative aspects of financial technologies, in addition to illegal and corrupted practices within the international financial activities and markets which was – for some views - a main contributing factor for the last international crisis. (Beseiso, 2010).

Ultimately the ability for adaptation to the fourth industrial revolution developments and related challenges will determine the survival of government and public authorities as well as the financial system governing institutions.

6. The Role of Islamic Economics and Finance in Crisis Management

Islamic Economics has been developing and widely spreading from national and regional circles to global perspective, registering sustained annual growth with about 15-20 percent in its assets. The recent economic and financial crisis and their identified basis and reasons created the conviction of many of the international financial system management leaders and experts about the feasible refuge to Islamic banking and finance which seems to be more qualified to prevent crisis than the traditional banking and finance sector (Ibid.).

In light of lessons of frequent crisis which had their drastic impact on banks including Islamic Banks, central banks should be very careful within their strategic direction to run a system through which early warning system with its required indicators should be built efficiently, approaching better crisis and risks management (Ibid.).

The Islamic Economics school of thought and its practitioners in Banking and finance have witnessed a noticeable growing international inclusion, mainly in light of the most recent international financial crisis of 2008 as proved, through many empirical studies, to be effective in preventing crisis and to mitigating them when happening.

Islamic Economics system based its objectives, conceptual principles and practical teachings on the adoption of a multidisciplinary dynamic approach to human wellbeing and development. Muslim scholars did not focus their attention primarily on economic variables. They considered overall human well-being to be the end product of interaction over a long period of time between a number of economic, moral, social, political, demographic and historical factors in such a way that none of them is able to make an optimum contribution without the support of the others.

Therefore the well-being of the people is not dependent just on economic variables, as conventional economics has emphasized until recently, but also on the closely interrelated role of moral, psychological, social, economic, political, demographic and historical factors.

Justice occupied a pivotal place in this whole framework because of its crucial importance in the Islamic worldview. There was an acute realization that justice is indispensable for development and that, in the absence of justice, there will be decline and disintegration.

In light of the last international Financial Crisis and its lessons concerning Islamic banking. Dr. ZETI, Akhtar Aziz, Governor, Central Bank of Malaysia stated clearly that;

"The global crisis has in fact demonstrated the pivotal role of an efficient functioning financial system towards achieving such a self-sustaining economic recovery. This has prompted an intensive collaborative effort by the international community to undertake wide ranging and far reaching financial reforms. This commitment is for a solution that will evolve a financial system that will best serve the real economy, a financial system that is sound and resilient and that is less vulnerable to financial crisis". (Dr ZETI, Governor, Central Bank of Malaysia, 2010).
Islamic finance, as a rapidly growing form of financial intermediation, has demonstrated its resilience during the global financial crisis and has every potential to advance the growth and development agenda.

The Islamic banking sector is reported by Ernst & Young to have grown at an annual rate of 16% in the period 2008–2012, reaching assets of USD1.7 trillion by the year 2013. Estimates of the asset size and growth rate vary significantly (another report, for example, estimates banking assets to be USD950 billion), but the consistent findings are that the sector is rapidly increasing in size, with assets near or above USD1 trillion.

The sustained growth of the sector throughout the financial crisis is seen as a sign of resilience and of ongoing relevance to customers worldwide. Islamic banking remains the core of the Islamic financial services industry. It is estimated that 73% of total Islamic finance assets worldwide are banking assets. Nearly three-quarters of the industry’s assets, therefore, are in the banking sector (Ibid.).

On the international aspects and risk management Dr. Zeti illustrated the development of Islamic Finance as becoming an important channel for fostering international financial linkages and in so doing is contributing to more balanced growth and development. "The internationalization of Islamic finance has therefore not only allowed for further diversification of risks, it has also contributed to more efficient allocation of funds across borders from centers with surplus funds to regions with investment opportunities"(Ibid.). The importance of Islamic finance in strengthening financial linkages and rapid pouring into the international financial markets is evident in particular with the emergence of sukuk (Islamic bonds) instruments to prominence as an attractive new asset class for investors and a competitive form of financing for businesses.

"The global sukuk market currently stands with an average growth rate of about 40 percent annually. Having now become the most vibrant segment in Islamic finance, the sukuk market has evolved into a truly international market, generating significant cross-border flows as funds are being raised from beyond domestic financial markets"(Ibid.).

We should keep in our minds, while designing the new architecture and required infrastructure for the new financial system mission, the vital role played by Islamic Banking nationally, regionally and internationally as well as the realized contributing role of Ethical considerations in the reallocation of financial resources to more socially responsible areas and contributing to greater social well-being.(Ibid.).

The concluding Speech of Dr Zeti Akhtar Aziz, Governor, Central Bank of Malaysia, at the IDB Group Luncheon at the IMF-World Bank Annual Meetings, in honor of the IDB Governors and other dignitaries are here very relevant and expressive; "As we pursue with stronger vigor the agenda of balanced growth and development, we have the potential to leverage on the increased role of Islamic finance in contributing to the global growth and global financial stability agenda. In addition, it can also be leveraged upon to foster greater financial flows across borders to contribute towards our agenda of enhancing a mutually reinforcing growth and the development agenda to achieve global aspiration of a self-sustaining, balanced and long lasting economic progress and development"(Ibid.).

These conceptual conclusions which are based upon practical empirical researches and surveys, motivated our belief in new role and vision for instituting safe and sound financial system achieving sustained stability and growth and avoiding crisis while minimizing the impact of crisis when happening in case of adopting the human wellbeing required system.

7. Reforming the International Financial System

In light of our research work evaluating the role of the international financial system in light of lessons of the last crisis, illustrations are following on the main objectives and some important required reform basics for the objected new global system; (http://www.un.org/ga/president/63/letters/recommendationExperts200309.pdf).
7.1 Objectives of International System Reform

The human suffering which resulted from the latest International Financial and Economic Crisis as reflected and continuing on all developing as well as developed countries necessitate reshaping the whole world economic system to be instituted by different leadership new approach that is believing in the main determinant role of Ethics in the new world order.

Reform of the International system must have as its goal the better functioning of the world economic system for the global good. This entails simultaneously pursuing long term objectives, such as sustainable and equitable growth, the creation of employment in accordance with the “decent work” concept, the responsible use of natural resources, and reduction of greenhouse gas emissions, and more immediate concerns, including addressing the challenges posed by the food and financial crises.

The unjust economic, financial and trade relations for the developing counties is another motivation for the required global social solidarity if the world economic, monetary and financial system is rebuilt to immune from crisis, instability and periodic flows of capital and financial assistance and by then world community wellbeing could be approached effectively.

Developed countries must make a renewed effort to meet the commitments made in the Millennium Declaration towards supporting the developing countries in the fields of economic, finance and trade relations.

7.2 Required World Financial Stability

The Financial Stability Forum was created in the aftermath of the 1997-8 financial crisis in order to promote international financial stability, improve the functioning of financial markets and reduce the tendency for financial shocks to propagate from country to country and to enhance the institutional framework to support global financial stability.

It is now apparent that the reforms that it has proposed, although important, have not been sufficient to avoid major global financial instability. If it is to become the main instrument for the formulation of reforms of the global financial system it must take into consideration the importance of financial stability for the development of the real economy.

In addition it must increase the representation of developing countries to adequately reflect the views and conditions in these countries and be made accountable to a democratically representative institution such as the Global Economic Coordination Council proposed above (http://www.un.org/ga/president/63/letters/recommendationExperts200309.pdf).

7.3 Crisis and Confidence

The collapse in confidence in the financial system is widely recognized as central in the economic crisis; restoration of confidence will be central in the recovery from all crisis impacts and put the wheel on right track.

The author of this research commented on the received report published by the Independent Evaluation Office (IEO) of IMF on “Governance of the IMF: An Evaluation by touching upon some required reforms as mentioned briefly in his following sent notes to IMF; “I would like to value extensively establishing the IEO within IMF, I hope that the evaluation process should consider all expressed views by thinkers, intellectuals and practitioners and analyses their views. I mean through external evaluation in addition to the self-evaluation. Also the views saying that IMF is following and applying a very rigid structured consultancy proposals and advises, mainly with relation to crisis and dept problems of the developing countries. Also I propose that IMF analyses the political input into its policies and positions. Finally it is very fruitful to train countries including central banks to build their own self-evaluation offices”. (Beseiso commented on Thursday, October 17, 2013)
7.4 The Real Required Reform

A sense of global social solidarity within the needed reform for the international financial system is the main determinant for presenting the defined structural deficits in the international economic, financial and trade structure and organizations.

"It is imperative that the regulatory reforms be real and substantive, and goes beyond the financial sector to address underlying problems in corporate governance and competition policy, and in tax structures, giving preferential treatment to capital gains, that may provide incentives for excessive leverage. While greater transparency is important, much more is needed than improving the clarity of financial instruments". (Ibid)

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A New Vision for the Financial Regulation System...


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Notes

1Our research is heavily drawn upon the following published and pending publication books
Fouad Beseiso, Economics of Happiness within the global Challenge - Special focus on the role of Islamic Economics. Finalized Manuscript Book to be published with International Publisher in 2019.

2I attended a “Conference On” Recent International Economic and Financial Crisis from Islamic Perspective”and presented a research paper on “The available Opportunities for Islamic Financial System as alternative for the Current International System”, Organized by the University for International Islamic Sciences and International Institute for Islamic Thought, Amman,1-2/12/2010.


4This conclusion has been documented in our mentioned research on Happiness Economics within global challenges. Book project for publication internationally.

5Objective wellbeing indicators capturing varied dimensions of economic, social, and environmental well-being of the targeted communities. Focusing on subjective indicators of quality of life involve other indicators such as community residents’ satisfaction with life overall, satisfaction with various life domains (e.g., life domains related to social, leisure, work, community, family, spiritual, financial,
etc.), as well as satisfaction with varied community services (government, nonprofit, and business services serving the targeted communities) and political system structure and practices.

6ASADZAM, A. N. In his research "Towards A New Paradigm for Economics" of the International Institute of Islamic Economics, International Islamic University Islamabad, Pakistan


8Baker, AbdelHaleem (2014) https://www.facebook.com/search/str/%25d9%2585%25d9%2582%25d8%25a7%25d8%25b5%25d8 %25af%2b%25d8%25a7%25d9%2584%25d8%8% . Shariaah Makased is mainly five, many Islamic thinkers including Dr. Abdel Haleem Baker added the sixth makased which is freedom.

INVESTIGATING THE LEVEL OF GLOBALIZATION OF TURKISH MANUFACTURING FIRMS

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Abstract

Globalization is an ongoing process by which regional economies, societies and cultures have become integrated through a network of communication and trade. It has been continuing its popularity since 1990s. There are several sources of the globalization. Among them technological advances, trade liberalization and changes in industrial structure can be classified as the principal sources. Different sources of globalization lead to large heterogeneity in the degree of globalization over time, across countries, industries and as well as within firms. The aim of this study is to investigate the level of globalization for the Turkish manufacturing sector using firm-level data. Using comprehensive and detailed firm-level data set covering 2006-2017 period and following the Makhija, Kim and Williamson (1997) approach, globalization levels of the firms are calculated. Using those measures firms are classified in four different groups according to their globalization levels as multi domestic, multi domestic transitional, simple global and global integrated. Differences in firm performance, such as size, profitability and labor productivity, according to the globalization levels are investigated through descriptive analysis. Besides using panel data models, globalization premia are estimated with panel estimation models. The most internationally integrated sectors are found to be: Motor vehicles, other transportation, electrical equipment, machinery, plastics and tobacco sectors. On the other hand, printing, other non-metallic minerals, leather, food and fabricated metal products sectors are found to be the less internationally integrated sectors. To our knowledge, this is the first and unique work which studies globalization of the Turkish manufacturing sector with firm-level data. Keywords: Globalization Indicators, Firm-Level Analysis, Turkish Manufacturing Sector.
MODEL OF GARBOLOGY MARKETING CONCEPT ON THE EXAMPLE OF TRADE SECTOR

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Abstract

Commercial use of information, automatically registered by the readers of separators of individual municipal waste fractions by waste operators, has been the least appreciated operational sub-area of the surveyed companies so far. The information contained in or on the waste constituting the stream obtained by the enterprise of the studied sectors: trade sector and waste management sector, used in an efficient way, can improve the selection process, on the level of extracting the material for processing or sale. Furthermore it can also provide knowledge about purchasing and consumption behaviours of waste stream producers / suppliers. Therefore, waste has a marketing value that is also useful in market research, which is another interesting management sub-area in the company, in functional terms (Sztangret, 2016, pp. 29-44). This area seems to be especially interesting from the perspective of cooperation with trade entities for whom information obtained from waste constitutes the basis of the supply decision system, and on the other hand it can represent a value for suppliers, while optimizing streams of delivered goods.

Furthermore, the diffusion of information and knowledge that accompanies the flow of waste stream promotes building and maintenance of integral relations. Municipal waste supplier becomes a prosumer and co-creator in the process of eco-value creation and an offer for the secondary market by the enterprise in the waste management sector (Sztangret, 2016). This happens on the one hand through conscious selection, and on the other through producing a waste stream that brings knowledge about it. This constitutes another implemented operational sub-area in subjective approach, with the features of an innovative marketing concept, that combines eco-knowledge management and its commercial use. Garbology is therefore the main research concept of this study, and its specification will concern its usefulness in the relation between the municipal waste sector and the trade sector.

All the above-mentioned activities are implemented in the discussed sectors more or less consciously to achieve the effect of a closed-circuit economy.

In connection with the above, the purpose of the article is to demonstrate the value of municipal waste, as a carrier of knowledge and information about buying and consumption behaviours, and its usefulness for decisions made by stream creators, including purchasing. Individual parts of the study concern the definition of the category of garbology, the subject of garbology research, the usefulness of such research for corporations and the improvement of research through cooperation.

Keywords: Garbology, Waste Management, Marketing Concept.

1. Introduction

Commercial use of information, automatically registered by the readers of separators of individual municipal waste fractions by waste operators, has been the least appreciated operational sub-area of the surveyed companies so far. The information contained in or on the waste constituting the stream obtained by the enterprise of the studied sectors: trade sector and waste management sector, used in an efficient way, can improve the selection process, on the level of extracting the material for processing or sale. Furthermore it can also provide knowledge about purchasing and consumption behaviours of waste stream producers / suppliers. Therefore, waste has a marketing value that is also useful in market research, which is another interesting management sub-area in the company, in functional terms (Sztangret, 2016, pp. 29-44). This area seems to be especially interesting from the perspective of
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In connection with the above, the purpose of the article is to demonstrate the value of municipal waste, as a carrier of knowledge and information about buying and consumption behaviours, and its usefulness for decisions made by stream creators, including purchasing. Individual parts of the study concern the definition of the category of garbology, the subject of garbology research, the usefulness of such research for corporations and the improvement of research through cooperation.

2. Garbology Research - Identification of the Research Category

In recent years, an increase in the importance of socially responsible activities, combining a business approach with pro-environmental aspect that affects the company's environmental impact, i.e. emissions, pollution, impact on biodiversity, as well as preventive actions (e.g. recycling) and repair has been observed (Bek-Gail, Rymkiewicz, 2015). These activities contribute to building a society that is conscious and responsible for consumption (Seretny, 2016). Hence, from the point of view of the needs of contemporary companies, garbology research is an extremely useful and thus a helpful source of information on consumption and purchasing habits (both actual and potential) of each company's clients.

Professor William Rathje, a researcher from the University of Arizona is recognized as the world precursor of garbology studies (Reno, 2014). He was the first to focus his attention on landfills in 1987 to find out what they contain and how materials behave in them (Schiffer, Riecker, 2015). This project significantly contributed to the development of garbology research in the context of new needs emerging in the environment of many companies (economic, social, marketing, logistics, etc.).

Research conducted by W. Rathje provided important knowledge about collected garbage (waste) and its value as well as possibilities in the sphere of creation of market demand1 (Rathje, et. al, 1992, Rathje, 2011). Their results contribute to the development of a sustainable and responsible market economy, from which extremely current postulates related to the need of processing, recovering and disposing consumer and production waste emerge (Reno, 2014; Schiffer, 2015). As a consequence of the observations and results of long-term research W. Rathje draws attention to the urgent need to care for the nature and the environment, in order to leave clean earth, water and air for future generations. This is closely related to rational management of waste, which is generated by consumers on the one hand and on the other hand by big corporations.

W. Pessel, a young researcher from the University of Warsaw is the precursor of garbology research in Poland. Similarly, to W. Rathje, he made a daring attempt to study garbage dumps (local landfills) to explore everyday life of Warsaw residents and occurring social changes [Pessel, 2008; Pessel 2010]. Information collected in this way expanded the current knowledge about economy, market preferences of the society and culture. The increase in the promotion of the idea of corporate social responsibility in Poland, which is associated with respects for the natural environment and

1 In 1990, W. Rathje received the award for public recognition of science and technology granted by the American Association for Scientific Progress, which cited "his innovative contribution to public understanding of science and its social influence by demonstrating with his creative project"Garbage Project" that scientific method can document problems and identify solutions.
social development (Reformat, Reformat, 2017), means that more and more Polish scientists notice the need of garbology research (e.g. Wierzbicka-Mazur, Kunsaz, 2013; Sobocinski, 2017; Grzymala, 2015; et. al.). This knowledge contributes to the development of a responsible economy, and researchers create better prospects for health and development for future generations while sharing the acquired knowledge and experience with companies.

The problem of waste coming from social consumption is now a key area of research on food waste, not only in Poland, but also in other developing countries. The results of analyzes conducted by N. B. D Thi, G. Kumar and Chiu-Yue Lin (2015) clearly show that problems related to food product waste are now considered the main threat to sustainable development and management systems in developing countries. At the same time, F. Girotto, L. Alibardi, R. Cosso (2015) show a growing number of studies related to food waste that contribute to the recovery of energy, clean water, elimination of harmful raw materials in products, the introduction of organic products, etc.

As Pessel (2010) states, there is no doubt that what every consumer disposes of and where they do it, proves their culture, acquired habits and customs. This is confirmed by the results of qualitative research also performed by other researchers, including D. Evans (2014), M. Watson & A. Meag (2013). Hence, the issue of consumption and purchasing habits of customers in garbage research indicates an extremely important corporate usefulness for the needs of responsible and sustainable trade development.

3. Model of Garbology Marketing Strategy on the Example of Trade

The entities of the trade sector constitute an example of the implementation of the model of the garbology marketing strategy, according to option 4 (table 1). They have access to the benefits comprised in the systemic value of municipal waste, built on the basis of at least several-part concept of implementation of closed waste management.

![Figure 1. Model of Garbology Marketing Strategy on the Example of Trade](image)

The entities of the trade sector perform the role of a co-creator of waste stream and prosumer in the process of shaping of the product for the secondary market of the waste management sector, through RIKOK (Regional Municipal Waste Treatment Plants) and PSZOKS (Selective Waste Collection Points).
The same role is performed by trade in relationships with the entities of the sector of marketing research services, with the use of the tools of recording information about resources and inventory, stored in databases, and readable from packaging, thanks to optoelectronic readers.

The trade sector can implement the mission of social responsibility, and thus the image-building strategy, while becoming involved in the actions of broadly perceived counteracting social exclusion, poverty and hunger, through involvement in the market of price-sensitive customer.

However, as the results of the observation of the trade sector show, only some of the sub-areas of the Model, at least on the Polish market, find their implementation. Retrospective values and opportunities to anticipate purchasing and consumption behaviors on the basis of waste analysis and its re-value have not been recognized yet, which could optimize buying processes.

**4. Effects of Garbology Research in the Trade of Food Products, on the Example of Tesco Global Retail Chain**

So far, an important part of garbology research in retail trade consists in searching for the causes of wasting food and valuable natural resources (energy, water, etc.) in the whole supply chain (from the production stage, through distribution and finally consumption). This knowledge constitutes the information base for the development of a responsible trade sector, in which all its participants (wholesalers, retailers, clients, etc.) play a significant role. This type of research is conducted by various entities. In their group, we can distinguish public institutions (e.g. research agency CBOS, Food Banks, Nielsen, FAO, etc.), private organizations (e.g., supermarkets, restaurants) and social movements. Their common mission is to struggle with wasting food and to publicize and promote their own eco-postulates.

**Table 2. Combating Food Waste through “Transfer” of Food by Tesco Chain in Poland in 2014-2016**

<table>
<thead>
<tr>
<th>Time</th>
<th>Amount of Transferred Food</th>
<th>Number of Transferred Meals (Conversion Unit 1 Meal = 0.420 kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>562 t</td>
<td>1.3 million</td>
</tr>
<tr>
<td>2015</td>
<td>1 240 t</td>
<td>2.9 million</td>
</tr>
<tr>
<td>2016</td>
<td>1 625 t</td>
<td>3.8 million</td>
</tr>
<tr>
<td>Total</td>
<td>3 429 t</td>
<td>over 8.1 million</td>
</tr>
</tbody>
</table>


**Figure 2. Surplus Food of the Tesco Poland Chain Suitable for Consumption in 2017/2018 (in tonnes)**

**Source:** Own study based on: (www 1)
Global retail chain Tesco is an example of a commercial chain that has been effectively implementing the program of combating food waste in Poland for several years. These activities consist in cooperation with the Federation of Polish Food Banks and transfer of surplus food, limiting food waste in Tesco stores, education and cooperation with suppliers, as well as educating customers, employees and local communities. Table 2 presents data related to the transfer of food for social purposes by Tesco chain in Poland in the years 2014-2016.

The above data show regular growth of involvement of Tesco chain in the process of transferring surplus food directly from stores to social partners, i.e. Food Banks, Caritas Poland, and local charity organizations. Thanks to this more than 3429 tons of products were delivered to the Food Banks service users, which was enough to prepare over 8 million meals. In the next 2017/18 year, Tesco Poland offered 1,097,610 tons of food for sale, out of which 12,377 tons were not sold to consumers (surplus food). This number includes food that is not safe for consumption by people, donated food suitable for consumption by people, products intended for animal feed and food waste that is recycled - Figure 2.

In comparison to the previous year, the amount of wasted food (surplus minus donations and animal feed) in Poland decreased by 33%. Table 3 presents the distribution of obtained surplus of food by category.

Table 3. Categories of Surplus Food in Tesco Poland Chain in 2017/18

<table>
<thead>
<tr>
<th>Category</th>
<th>Surplus (tonnes)</th>
<th>Percentage Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transferred donations</td>
<td>2 245</td>
<td>18</td>
</tr>
<tr>
<td>Animal feed*</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Recycling</td>
<td>10 129</td>
<td>82</td>
</tr>
</tbody>
</table>

Note: * food unsuitable for consumption by people transferred as animal feed
Source: Report on wasting food - Tesco Poland, 2018

At the same time, in 2017/18, Tesco chain reduced the scale of food waste in all its stores in Europe by 30%, while transferring over 10,000 tons of food products to Food Banks and social organizations (www 1). The chain declares that by 2020 all Tesco stores in Europe will have been offering surplus food to local charities.

Source: Own case study based on (Swannell, 2018, p. 8).

Figure 3. The Essence of the Elements Forming the "Measure, Target, Act"

The application of modern technology in the form of the "FoodCloud" application (www 2) is another model example of the activities of Tesco chain in Poland that are aimed at limiting the scale of

2 The "FoodCloud" application was created by the "FoodCloud" organization, founded in 2012 in Dublin. It has saved 18 200 tons of food from being wasted since it was started. It is equivalent to 40 million wholesome meals.
food waste. Tesco has already been successfully implementing this solution in the UK and Ireland while instantly informing about the food surplus they have. The application allows to confirm collection of food by charities in real time.

In Poland, the “Food Cloud” application testing has been started by Krakow Food Bank. This solution provides information from 5 Tesco stores in Krakow to charities. The Food Bank receives information on available surpluses of unsold food in the application and can plan the collection directly from the store (www 3). It is a logistical challenge for smaller and local organizations that, while using the application, receive current data on the availability of products. This helps them plan the redistribution of products better. The ambition of the described chain is to expand the scale of operation of the application to the entire country.

Source: UK Food Waste Data (2017/18)

Figure 4. Food Waste by Category - Tesco UK 2017/2018 (in %)

It should be added that Tesco is the first commercial network in Central Europe that measures and publishes data concerning the scale of food waste in its stores and distribution networks. (www 4). The idea of these actions is based on the ”Measure, Target, Act” assumptions of the global WRAP organization. The essence of these elements is explained in Fig. 3.

Thanks to the above algorithm of activities performed by means of garbology research, Tesco chain currently plays a significant role in the global combat with food waste, while supporting the achievement of the UN's sustainable development goals (SDG) aimed at reduction of the scale of global food waste by half by 2030. The studied chain also calls on its suppliers to manage, measure and conduct responsible treatment of food waste. This applies both to own label suppliers and leading suppliers of products.

At the same time, the described chain aims to raise awareness of the problem of food waste among the society by organizing annual conferences on not wasting food products, and to discuss the ways to reduce waste with non-governmental organizations, representatives of local governments and companies from the entire food supply chain.

Table 4. Categories of Surplus Food in Tesco UK Chain in 2016-18

<table>
<thead>
<tr>
<th>Analysed Size</th>
<th>2016/2017</th>
<th>2017/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total UK food sales</td>
<td>9,957,374 tonnes</td>
<td>10,023,559 tonnes</td>
</tr>
<tr>
<td>Total food waste</td>
<td>46,684 tonnes</td>
<td>53,126 tonnes</td>
</tr>
<tr>
<td>Waste as % of food sales</td>
<td>0,5%</td>
<td>0,5%</td>
</tr>
<tr>
<td>Donations</td>
<td>5,700 tonnes</td>
<td>7,975 tonnes</td>
</tr>
</tbody>
</table>

Source: UK Food Waste Data (2017/18)

Data presented in the table above shows that in the period 2017/18, the sales of food offered by Tesco chain in the United Kingdom increased, which confirms its effective development in this country. It is important that the amount of waste has not increased at the same time. It remained at the same level as the year before when lower sales (0.5%) was observed. This situation is a good
prognosis for further actions of Tesco chain in the sphere of limiting wasted food on the British market. In general, the chain sold to customers a total of 10,023,549 tons of food, which generated losses presented in Figure 5.

Source: Own study based on UK Food Waste Data (2017/18).

Figure 5. Food Losses Generated by Tesco Chain in the United Kingdom in 2017/2018

The presented data show that in the United Kingdom, at least in comparison with actions on Polish market, Tesco chain uses a broader spectrum of activities to eliminate wasting unsold food that is still suitable for consumption. This chain remains the only British retailer that publishes detailed data on food waste provided by third parties, while encouraging other retailers to take similar actions.

Source: Own study based on UK Food Waste Data (2017/18).

Figure 6. Food Surplus Save for Human Consumption (tonnes) in Tesco UK - 2017/2018

5. Conclusions

To sum up, it should be emphasized that municipal waste has an undeniable value as a carrier of knowledge and information about purchasing and consumption behaviors, and usefulness for decisions made by waste stream creators, including the buying ones. The issue of garbology research is becoming an increasingly more important global challenge and an element of the strategy of large retail chains in recent years. This confirms the growing involvement of retail entities in the process of combating waste of food both in their business environment and among customers, which is confirmed by the practice of the commercial chain presented in the paper. However, as the observations of the sector show, that the area of counteracting waste is the only practically used way to implement the re-value of municipal waste concept in the trade sector.

The examples of Tesco's activities presented in the paper are socially responsible undertakings resulting from the awareness of the type and size of wasted food on the one hand, and on the other
hand they are part of the "re-use" sub-concept. In this case it represents "effective use", which is a method of implementation of the closed-circuit economy concept.

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management in stakeholders’ eco-system on the example of public utilities company], Publisher: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, Studia i Prace WNEiZ US nr 43/2
DEVELOPMENT OF A REGIONAL MARKETING SYSTEM

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Abstract

The article deals with the formation and development of regional (territorial) marketing system in conditions of competition among regions.

The place of marketing in the economic system of the region is determined, the emphasis is placed on the study of the region as a product, the evolution of marketing, the identification of the essence of marketing in the system of regional policy. Author’s approach to the regions as a kind of competing corporations for resources and consumers is developed.

The set of marketing methods is offered, with the help of which it is possible to assess the rationality of the region's development and provide information for further prediction of socio-economic development of the region. The marketing methods are understood as the set of methods and ways of thinking, allowing on the basis of the analysis of retrospective data, exogenous (external) and endogenous (internal) links of the object, as well as their measurements within the framework of the phenomenon or process under consideration, to derive certain authenticity judgments regarding its future development.

On the basis of analysis and systematization of data on the development of the region and existing marketing strategies, a marketing strategy for the region, which consists of eight stages, is designed to increase the region's popularity, that is, to create its positive image and improve the competitiveness of enterprises located in the region.

Keywords: Marketing, Region, Regional Marketing, Marketing Strategy, Regional Development.
ESTIMATION OF POST-HARVEST LOSSES ALONG MARKETING CHANNELS OF NAVEL AND LEMON IN KAT RIVER VALLEY, EASTERN CAPE, SOUTH AFRICA

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Abstract

Citrus fruit produced by farmers in the fields have to undergo a series of operations such as transportation, processing, storage and exchange before reaching the consumers. Within each operation stage of the process, there is huge loss of the quantities which is referred as “post-harvest losses”. This study examined the nature and the extent of post-harvest loses in navel and lemon. A multistage sampling technique was used to select 30 smallholder citrus fruit farmers, 5 wholesalers and 10 retailers from Kat River Valley for the year 2016/17. Descriptive analysis has been used to estimate the percentage post-harvest losses at different stages, and multiple linear regression analysis has been used to assess factors influencing postharvest losses. The study revealed that the most preferred was farmer to processor to consumer. Age of respondents, level of education, total output and the nature of storage facility significantly influence post-harvest loses. The study recommends establishment of producer organizations, small cold storages in production areas and training of farmers.

Keywords: Citrus Farmers, Post-Harvest Losses, Marketing Channel, Multiple Regression, South Africa.

1. Introduction

The growing importance of fruit in South Africa’s economy can be well appreciated in terms of their rising domestic demand on account of increase in population and per capita income; their increasing export potential and the need for providing employment opportunities in the rural areas (Citrus Growers Association, 2016a). While domestic and export demand is steadily rising, the production and marketing of citrus fruit face tremendous uncertainties on several counts (Uys, 2016).

In 2016/17 season, Department of Agriculture, Forestry and Fisheries (DAFF) (2016), reported that citrus fruit is the second largest crop produced in South Africa and constitute about 55% of total fruit production. The Eastern Cape being the power house of the Southern African citrus industry, accounts for 27% of citrus production in the country. However, farmers are experiencing post-harvest losses between production centres and the final consumer. Post-harvest loss is defined as the sum quantity of outputs lost in threshing, transportation, processing, storage and exchange (Kumar, 2006). Many studies have been conducted for estimating the post-harvest losses particularly in South Africa (Mashau et al., 2012; Garikai, 2014; Chauke, 2014). However, much of the attention has been on the production side rather than marketing of agricultural commodities. It is distressing to note that so much time is being devoted to the culture of the plant, so much money is spent on irrigation, fertilisers and crop protection measures, but little attention is paid and resources devoted to the issues related with post-harvest losses is meager resulting in failure to meet food requirement of the hungry six million South Africans.

The agricultural products, particularly fruit and vegetables are seasonal and extremely perishable in nature which requires efficient and effective marketing (Negasi, 2015). The wide distance between production and post-harvest management results to a large proportion of losses (Aulakh and Regmi,
Estimation of Post-Harvest Losses...

The fruits because of their moisture content are inherently more liable for deterioration in quality and quantity especially under tropical conditions. Moreover, they are biologically active and carry out transpiration, respiration, ripening and other biochemical activities, which contribute for deterioration in quality of the produce. Post-harvest losses in fruit during post-harvest operations due to improper handling and storage are enormous.

Mitrannavar (2012) reported that the post-harvest loss in fruit ranges from 10 to 30 percent. Post-harvest losses can occur in the field, in packing areas, in storage, during transportation and in the wholesale and retail markets. Severe losses occur because of poor facilities, lack of know-how, poor management and improper market facilities or due to careless handling of the produce by farmers, market intermediaries and consumers. It is, therefore, important that the post-harvest practices be given as much attention as production practices.

The study on post-harvest losses in fruit at various stages of handling would help in assessing the extent and magnitude of losses and in identifying the factors responsible for such losses. This in turn would help in developing proper measures to reduce post-harvest losses at different stages from production point to consumption point. Under the circumstances, the reduction in post-harvest losses can help in increasing the availability of fruit to a great extent without increasing the production. In the absence of reliable and objective estimates of post-harvest losses at different stages, the ways to evolve correct policies for minimising such losses is more difficult. As mentioned, very few studies have attempted to assess the extent of postharvest losses in horticultural crops.

2. Objectives of the Study

The present study attempts to estimate the postharvest losses of major citrus crops in Eastern Cape. The information on the extent of losses at various stages is important not only for scientists and technologists but it would also be useful to policy makers, administrators and industrialists. The scientists and technologists would be guided by the findings of this study in carrying out improvements in the crop production and post-harvest technologies aimed at minimising these losses.

The specific objectives of the present study were to:

i. examine socio-economic profile of citrus farmers in Kat River Valley
ii. measure the extent of post-harvest losses in citrus fruit at different stages, and
iii. assess the factors affecting post-harvest losses at the farm level.

3. Material and Methods

3.1 Description of the Study Area

The study was carried out in the Nkonkobe Local Municipality of Eastern Cape. Nkonkobe extends over 3725.32 ha of the former magisterial districts of Alice, Balfour, Hogsback, Fort Beaufort, Middledrift and Seymour. The municipality consists of 21 wards and 41 municipal councils (Nkonkobe Municipality, 2004). It has an average population density of 43 persons per hectare (Stats SA, 2017).

In the North East along the wild coast, towns like Port St Johns experience long, hot, balmy conditions and high rainfall, while Graaff Reinet in the heart of great Karoo, experiences long hot summer months and moderate winter. Up towards the Free State (at towns such as Lady Grey and Aliwal North) the rise in altitude means the appropriate lowering in temperature and towns. The coastal city of Port Elizabeth enjoys a daily average of +/- 8 hours of sunshine annually. In winter, the temperature ranges from 7 to 20 degrees. In summer, the temperatures range from 16 to 26 Degrees Celsius.

3.1.1 Mean Monthly and Annual Rainfall

Projections of monthly and seasonal changes in rainfall distribution patterns over Eastern Cape are not uniform, but can vary markedly in direction, in intensity, as well as varying spatially within the province in a given month, between different months of the year for the same statistic, and between the intermediate future and the more distant future for the same statistic, with this last-named
difference suggesting an intensification and acceleration of impacts of climate change over time. Eastern Cape normally receives between 600mm to 1000mm per annum (South African Weather Services, 2018). Alfred Nzo District received good rainfall while the central regions of the province have a mixture of below normal to near normal rainfall.

Note: This is merely a schematic diagram and does not cover the entire territory

Figure 1. Map of the Eastern Cape

3.1.2 Mean Monthly Maximum and Minimum Temperatures

3.1.2.1 Mean Monthly Wind Direction and Speed

The province is characterized by the highest frequency of (in decreasing order) NW, N, NE and SW winds, especially during the warmer months of August to January. The wind speed recorded over the past 30 year period are generally low, 0-8 m/s with wind speed of higher than 14m/s having a frequency of less than 13% and occurring in August and September.

3.1.3 Land Use and Related Activities

It is apparent that most of the land in the study area is used for agricultural purpose. For example, Soviti (2002) indicated that 54% of land is used for activities such as crop farming, grazing and citrus farming. The commercial state forest took about 26% of all the land used in the upper Kat River Valley area. Settlements on other hand occupied 19.4% of the land.

3.2 Research Design

This study used a cross sectional survey design where data were collected at a single point in time. The cross-sectional data was collected from a survey of sample citrus farmers and various marketing intermediaries through personal interviews with the help of pre-tested and structured questionnaire for 2016/17 season. The data collected included general information about the cultivation of fruit, methods of harvesting, mode of packaging, storage system and mode of transport. A separate questionnaire was developed and used for eliciting information from market intermediaries who sell fruit. This included information on quantity purchased, mode of transport used, storage, purchase and quantity marketed.

3.3 Sampling Procedure

The present study was conducted at Kat River Valley in Eastern Cape Province of South Africa. Since the area has vast potential for production, marketing and export of citrus fruit, it was purposively
selected for the present study. For selection of citrus farmers and market intermediaries, multi-stage sampling method was used. At the first stage, one principal citrus market namely Spar based on the large volumes was selected. At stage two, three primary markets were selected out of six for the present study. These were: George’s fruit and veg, Shoprite and Spar. At the third stage, four clusters of villages were selected purposively considering the status of fruit production. Finally, 10 farmers per cluster were selected randomly. Thus the sample size was 30 participants.

3.4. Method of Data Analysis

The study used both descriptive statistics and econometric model (multiple regressions) to analyze the data. Descriptive statistics was used to analyze characteristics of farmers and post-harvest losses (averages and percentages). Regression analysis was carried out to examine the factors affecting post-harvest losses at farm level. Post-harvest losses at farm level were defined as a function of several socio-economic factors like age of the farmer, his education, type of family, total production of fruit etc. The study employs a multiple linear regression model following Nag et al. (2000), Adewumi et al. (2009) and Kikulwe et al. (2018), to assess the influence of socio-economic factors on post-harvest losses. The multiple linear regression function was specified as follows:

Total Post-harvest Loss \( S_i = \sum f(X_j) \) .................................................................(1)

Where \( S_i \) is the loss at the \( i^{th} \) level and \( X_j \) are the factors affecting losses at the farm level. The general equation can be specified as:

\[
Y = \beta_0 + \beta_1X_1 + \ldots + \beta_nX_n + \mu 
\]  

Where:

\( Y \) is post-harvest losses at the farm level for oranges (Measured in quantities lost at the farm level).

The \( X \)'s represent various socio-economic and production and environmental factors which are expected to exert some impact on losses. The error term, \( \mu \), is included to represent the unexplained variations.

**Definition of variables and hypotheses**

In this study, post-harvest loss was taken as the dependent variable. This type of variable was measured using quantities lost at the farm level. Variable explanation and hypotheses is given below.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Definition</th>
<th>Expected Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (X1)</td>
<td>Actual number of years</td>
<td>±</td>
</tr>
<tr>
<td>Area under production (X2)</td>
<td>Actual number of hectares</td>
<td>±</td>
</tr>
<tr>
<td>Number of years spent at school (X3)</td>
<td>Education level of the farming household head</td>
<td>+</td>
</tr>
<tr>
<td>Area under irrigation (X4)</td>
<td>Number in hectares</td>
<td>+</td>
</tr>
<tr>
<td>Storage (X5)</td>
<td>Dummy (0 if adequate and 1 otherwise)</td>
<td>+</td>
</tr>
<tr>
<td>Transport (X6)</td>
<td>Availability (Yes = 1, No = 0)</td>
<td>+</td>
</tr>
<tr>
<td>Labour (X7)</td>
<td>Availability (Yes = 1, No = 0)</td>
<td>+</td>
</tr>
<tr>
<td>Trees (X8)</td>
<td>Actual number of trees</td>
<td>-</td>
</tr>
<tr>
<td>Household size (X9)</td>
<td>Number of persons in the family</td>
<td>+</td>
</tr>
<tr>
<td>Whether (X10)</td>
<td>Dummy (Good = 1, Bad = 0)</td>
<td>+</td>
</tr>
<tr>
<td>Gender(X11)</td>
<td>Dummy (male 0, female 1)</td>
<td>+</td>
</tr>
</tbody>
</table>

**Source:** Authors' Own Hypothesis

4. Results and Discussion

Descriptive statistics of the variables and the estimation results of the multiple linear regression are presented to give insights on the factors that affect post-harvest losses.
4.1 Demographic and Socio-Economic Profile of Citrus Farmers in Kat River Valley

The socio economic characteristics entail the fundamental background of farmers in the study area. These characteristics are set to describe the relationship between factors such as age, gender, household size, farming experience, number of trees planted, land size, distance to market; access to extension services and access to credit, and the post-harvest loses. Table 1 reports descriptive statistics of the farmers interviewed in the study area.

Table 2. Basic Characteristics of Citrus Farmers Interviewed (n=30)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Description</th>
<th>Percentage of Respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education level</td>
<td>Primary school = 1</td>
<td>56.7</td>
</tr>
<tr>
<td></td>
<td>Secondary school = 2</td>
<td>23.3</td>
</tr>
<tr>
<td></td>
<td>Tertiary education = 3</td>
<td>20.0</td>
</tr>
<tr>
<td>Gender</td>
<td>Female = 1</td>
<td>3.3</td>
</tr>
<tr>
<td></td>
<td>Male = 0</td>
<td>96.7</td>
</tr>
<tr>
<td>Available storage</td>
<td>Yes</td>
<td>16.7</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>83.3</td>
</tr>
<tr>
<td>Labour availability</td>
<td>Yes</td>
<td>37.5</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>62.5</td>
</tr>
<tr>
<td>Variables</td>
<td>Mean</td>
<td>Min</td>
</tr>
<tr>
<td>Age of respondents</td>
<td>Age of the decision maker</td>
<td>57</td>
</tr>
<tr>
<td>Household size</td>
<td>Total number of persons</td>
<td>5</td>
</tr>
<tr>
<td>Total production</td>
<td>Quantity produced (tons)</td>
<td>56 320.03</td>
</tr>
<tr>
<td>Area under irrigation</td>
<td>Ha</td>
<td>96.6</td>
</tr>
<tr>
<td>Land size</td>
<td>Total land size in ha owned</td>
<td>60.6</td>
</tr>
<tr>
<td>Land production</td>
<td>Size under citrus production</td>
<td>36.1</td>
</tr>
<tr>
<td>Number of trees</td>
<td>Total number of trees per farmer</td>
<td>21239</td>
</tr>
</tbody>
</table>

Source: Survey data, 2017.

The results indicated that the majority of decision makers among citrus farmers in the study area are male, at 96.7 percent and the remaining 3.3 percent were female. In contrast, StatsSA, (2011) found that slightly less than half of the households in Kat River valley are headed by females. Pote (2011) attributes the low number of women in citrus farming to the prevailing socio cultural factors where land and permanent crops are generally owned by men. Another reason for this could be the role played by male farmers in farm decision (Bester, 2008 and Monde, 2003). The mean average age of all respondents was 57 years of age. According to the Republic of South Africa’s constitution, youth are defined as persons between 18 to 34 years (RSA, 1999); the study therefore finds very few youth engaging in agriculture. The current study agrees with World Bank (2013) report that indicates very low involvement of the youth in agriculture.

The average household size was five persons per household and only 37.5 percent of farmers indicated they have labour availability. Education level of the household head was expressed in terms of primary, secondary and tertiary levels. The results indicated that more than half of the respondents attained primary education about 56.7 percent and only less than 20 percent attended tertiary institution. The remaining 23.3 percent attained secondary education. The results are in line with Montshwe (2006) findings that people with higher education level are in better position to interpret market information compared to people with low level of education.

The household size has no significant impact on the post-harvest losses at farm-level. However, it is included to the study to look at the migration level of people around the study area, and also to look on sustainability of farm in terms of the farmer’s household labour force. Question of who is going to take over? Are there any people from the household working on the farm? Is there any child who is interested of running the farm in future? The mean household sizes were five persons. The study also revealed that household sizes were in the range of 1 to 7 per household. The household size is an indication of the quantity of labour available for use by households. The result is closely related to the
findings of Assefa, (2013) and Kaswamila et al. (2007) which show that the minimum family size of 2 and 3 and the maximum family size of 13 people.

Availability of farmland is also one of the socio-economic variables that are vital for agricultural practice and livelihood creation. Table 1 indicated that, the maximum land size was 203 hectares and minimum was 10.3 hectares implying that citrus farmers at the Kat River are operating on big lands. A study by Sikwela (2013) provided evidence that the largest proportion of land under cultivation was allocated to citrus production. The results from Table 1 also indicated an average of 36.1 hectares under production. The maximum number of hectares was 115ha and the minimum was 8.2ha. These results clearly indicate that there is huge number of hectares in Kat River Valley that is not utilized by citrus farmers. Some of the reasons provided were a shortage of fence, irrigation systems and title deeds to apply for funding.

The findings from Table 1 indicated that the average number of trees was 21239 trees from the 30 citrus farmer interviewed. It is estimated that a mature orange tree can grow 1,250 oranges if it gets a proper care in-terms of fertilization and proper irrigation. However some of the farmers are saying some of the trees from the Orchards are old they don’t bear much fruit as a result they need to be replaced, more an orange tree can produce fruit up to 50 years.

Eastern Cape Province represents about 26 percent on the total citrus production in hectares. The estimated hectares in this province is about 16 725 ha. The results indicated that the average output produced was 55 105.03 tones. This indicates that Kat River Valley is one if not only the citrus hub in the Eastern Cape.

The majority of the citrus farmers that were interviewed in Kat river valley have an access to credit 90 percent; they are funded or getting credit from different institutions such as SAFPRO, Land Bank, IDC and Department of Land Reform through Recapitalization Programme (RECAP). They use credit mostly for production processes such as procurement of implements and other inputs, re-enforcing the fence and buying new trees.

Farm training workshops are often used to educate farmers on technical skills so as to improve the quality produce. These are functional and practical techniques for educating the farmers on advanced methods of production. Stats SA (2010) explained the challenges that farmers are facing in rural areas in accessing extension and training services. Aliber and Hall (2011) argues that the majority of smallholder farmers in South Africa have limited access to extension services, despite that citrus farmer under study area which were interviewed about 93.3% indicated that indeed they received extension services.

4.2 The Extent of Post-Harvest

4.2.1 Post-Harvest Losses at the Farm Level

The post-harvest losses were estimated from the farm level to retailer level. In addition, the post-level losses at farm level have been estimated at different stages such as; at harvesting, grading and packing, handling and transportation and marketing. Moreover, the losses at the retailer level were estimated at loading-unloading, transportation, grading and selling stages.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Navel</th>
<th>Lemon</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Loss (kg/ha)</td>
<td>% loss</td>
</tr>
<tr>
<td>Farm level loss</td>
<td>5.62</td>
<td>50</td>
</tr>
<tr>
<td>Production</td>
<td>0.82</td>
<td>7.29</td>
</tr>
<tr>
<td>Harvesting</td>
<td>0.70</td>
<td>6.23</td>
</tr>
<tr>
<td>Drying</td>
<td>0.17</td>
<td>1.51</td>
</tr>
<tr>
<td>Packing</td>
<td>0.12</td>
<td>1.07</td>
</tr>
<tr>
<td>Storage</td>
<td>2.30</td>
<td>20.46</td>
</tr>
<tr>
<td>Transportation</td>
<td>1.51</td>
<td>13.43</td>
</tr>
</tbody>
</table>

Source: Survey Data, 2017.
The estimated post-harvest losses per kilogram of citrus produced or handled at farm level are presented in Table 3. These were estimated to be 5.62 kg/ha in navel and 4.90 kg/ha in lemon at the farm level. The losses were maximum due to faulty storage (2.30 kg/ha in navel and 1.60 kg/ha in lemon) in both crops. Important factors leading to storage losses were mainly due to poor storage structures. The citrus fruit losses during the transportation activity were estimated to be 1.51 kg/ha in navel and 1.48 kg/ha in lemon.

### 4.2.2 The Extent of Losses at Wholesale and Retail Levels

In this section, post-harvest losses at the wholesale and retail levels have been discussed. The wholesale transactions were performed between 9am to 3pm every day. The functionaries informed that they lost up to 26.3% in lemon and 19.6% in navel during transportation from the farm level to the wholesaler. At the retail level, the loss was registered maximum by lemon (14.4%) and a bit less (14%) by navel. As far as losses at different stages were concerned, the maximum losses were experienced during transportation. The results are presented in Table 4 below.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Navel</th>
<th>Lemon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholesaler level loss</td>
<td>4.05</td>
<td>5.53</td>
</tr>
<tr>
<td>Handling (loading &amp; off-loading)</td>
<td>0.51</td>
<td>0.71</td>
</tr>
<tr>
<td>Transportation</td>
<td>2.21</td>
<td>3.20</td>
</tr>
<tr>
<td>Storage</td>
<td>1.33</td>
<td>1.62</td>
</tr>
<tr>
<td>Retailer level loss</td>
<td>1.60</td>
<td>1.76</td>
</tr>
<tr>
<td>Transportation</td>
<td>0.88</td>
<td>0.92</td>
</tr>
<tr>
<td>Spoilage</td>
<td>0.72</td>
<td>0.84</td>
</tr>
</tbody>
</table>

**Source:** Survey Data, 2017.

### 4.2.3 Total Losses (Farm, Retail and Wholesale Levels)

The aggregate post-harvest losses in citrus fruit were calculated by taking together the losses at farm level, wholesale level and retail level. Table 4 reveals that post-harvest losses were maximum at the farm level in navel (50%) and minimum at the retail level (14%). On the other hand, post-harvest level was maximum at the wholesale level in lemon (45%) and minimum at the retail level (14.4%). Similar results were obtained by Gajanana et al. (2006) and Kumar et al. (2006). On the contrary, Hazarika (2008) has reported maximum post-harvest loss at the middleman level in Assam.

### Table 5. Estimated Post-Harvest Losses at Farm Level in Navel and Lemon: 2016-17

<table>
<thead>
<tr>
<th>Stage</th>
<th>Navel</th>
<th>Lemon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm Level Loss</td>
<td>5.62</td>
<td>4.90</td>
</tr>
<tr>
<td>Wholesaler Level Loss</td>
<td>4.05</td>
<td>5.53</td>
</tr>
<tr>
<td>Retailer Level Loss</td>
<td>1.60</td>
<td>1.76</td>
</tr>
<tr>
<td>Total Losses</td>
<td>11.27</td>
<td>12.19</td>
</tr>
</tbody>
</table>

**Source:** Survey Data, 2017.

### 4.3 Modeling Factors Affecting Post Level Losses at the Farm Level

To study the influence of different socio-economic factors of farmers on post-harvest losses at the farm-level, a multiple linear regression analysis was carried out. The estimated regression coefficients are presented in Table 5. The variations in eleven independent variables included in the regression model explained nearly 72 per cent variations in the total post-harvest losses in navel and 76 per cent in the case of lemon. The F-ratio was significant in both the cases, indicating a fit of the regression models.
Age, total production, labour availability and weather conditions are factors that influence the post-harvest loss of Navel fruit but only age has negative influence. Total production, labour availability and weather conditions were statistically significant with post-harvest losses in navel fruit. This shows that the more the production of navel the more the post-harvest losses. This is in agreement with the a priori expectation. But it is surprising to know that labour availability increases with post-harvest losses. The reason could be that labour is available for production but not always available for handling post-harvest losses or it could be that the labour available did not have the requisite skills in basic processing of navel. Weather condition is one of the predisposing factors to deterioration after harvest in navel.

With the age of the respondents, the positive statistical significance is in line with the a priori expectation because younger people have better horizon in dealing with post harvest losses than their older counterparts.

Also for Lemon, age, level of education, area under irrigation, and available storage affected the post-harvest losses in Lemon.

It is surprising to see that education has positive significance relationship with post-harvest losses in lemon. This may be so because education level may not necessarily translate into handling post-harvest losses which require special skills and competence which general education may not be able to give.

It is necessary to know different factors that affect post-harvest losses of different fruits. So in designing a policy on addressing post-harvest losses in fruits, the policy should be made with some specifics to proffer workable solution.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Navel</th>
<th>Lemon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>6.0897</td>
<td>1.3878</td>
</tr>
<tr>
<td>Age</td>
<td>-0.267</td>
<td>-0.021</td>
</tr>
<tr>
<td>Level of education</td>
<td>0.0158</td>
<td>0.227</td>
</tr>
<tr>
<td>Total production</td>
<td>0.0178</td>
<td>0.003</td>
</tr>
<tr>
<td>Area under irrigation</td>
<td>-0.006</td>
<td>0.004</td>
</tr>
<tr>
<td>Available storage facility</td>
<td>0.055</td>
<td>0.003</td>
</tr>
<tr>
<td>Labour availability</td>
<td>0.255</td>
<td>-0.692</td>
</tr>
<tr>
<td>Mode of transport</td>
<td>-0.147</td>
<td>0.008</td>
</tr>
<tr>
<td>Weather conditions at harvest</td>
<td>0.940</td>
<td>0.017</td>
</tr>
<tr>
<td>( R^2 )</td>
<td>0.64</td>
<td>0.70</td>
</tr>
<tr>
<td>( F )</td>
<td>9.78</td>
<td>14.3</td>
</tr>
</tbody>
</table>

**Source**: Survey data, 2017.

**Note**: (*, **, *** denotes 10%, 5% and 1% significant levels, respectively)

5. **Conclusions and Recommendation**

The study has estimated post-harvest losses in two major citrus fruit, namely: Navel and Lemon. It has been found that about 45.1 percent of the total post-harvest losses occur at the farm level, 40.75 percent at the wholesale and the remaining 14.15 percent at retail level. The transportation losses at different stages have added up to about 43.345 per cent of the total post-harvest. The regression analysis revealed that education level of farmers and bad weather conditions influence the post-harvest losses significantly at farm level in both fruits, while inadequate availability of labour and faulty storage method influence the post-harvest losses positively and significantly in navel and lemon, respectively. The study recommends that educating and training the farmers on post-harvest operations would greatly help in reducing the post-harvest losses in citrus farming. The establishment of small-size cold storage units at the farm level would help reduce the storage losses.
6. Acknowledgements

The authors are grateful to DAAD-NRF and to the farmers, district agriculture office workers, and all those who participated in the data collection and analysis. The authors would also like to thank MC-FNAS HDC for funding the paper to be presented at the conference.

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Estimation of Post-Harvest Losses...


ANALYSING THE SHORT-TERM AND THE LONG-TERM RELATIONSHIP BETWEEN BIST FOOD BEVERAGE INDEX AND FOOD INDICES ON GLOBAL MARKET

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Abstract

Within the scope of this study, the existence of short-term and long-term relationship between BIST Food Beverage Index, which is one of the sub-indices covering food and beverage companies listed on Borsa Istanbul, and Food Indices on global market are analysed for the period of 07.01.2013 – 07.01.2019. In this sense, the aim of this study is to determine in what degree these companies listed in BIST Food Beverage Index are affected by the Global Food and Beverage Indices in the period at issue. Representing the global market, the indices relating to food and beverages taking place in the scope of Thomson Reuters/CoreCommodity CRB are used. Four foods and two beverages are determined as cacao, corn, sugar, wheat, coffee and orange juice. Within the scope of the study using daily closing price of stock markets, the relationship of variables is analysed with Autoregressive Distributed Lag (ARDL) model depending on that some variables are found as stationary at the level of I(1), some at the level of I(0). At the result of the analysis performed, the existence of a long-term balance is determined with F test. ARDL (1, 3, 2, 1, 0, 0, 0) model is estimated in a way to include time-lagged variables as one-lag in BIST Food and Beverage Index, three-lags in Corn Index, two-lags in Wheat Index, one-term in Orange Juice Index. Coffee, Cacao and Sugar Indices are estimated in a way to compose of variables without lagged. According to this, Corn Index, Wheat Index and Sugar Index are found as significant in the long-term. Elasticity coefficients of variables are determined as -1.5623, 1.4339 and 0.9227 respectively. These coefficients show how much 1% increase in the indices, which is found as significant in long term, will change BIST Food and Beverage Index. The coefficients in ARDL Model are found as consistency according to the statistics of CUSUM and CUSUMSQ. In the period analysed (without a short term of 2008), any critical structural break is not encountered. In our study, the short-term relationship of indices within the scope of Thomson Reuters/CoreCommodity CRB with BIST Food and Beverage Index is estimated with Error Correction Model (ECM). Accordingly, three indices in the different lagged values are found as correlated with BIST index in the short-term. These indices are Wheat Index, Corn Index and Orange Juice Index. In the short-term, it is determined that there is a positive relationship both between BIST Food and Beverage Index and Corn Index and between BIST Food and Beverage Index and Orange Juice Index. However, BIST Food and Beverage Index is found as a negative relationship with Wheat Index. Within the context of the model, the error correction coefficient is found as negative and statistically significant. On the other hand, it is found that only 1.7% of deviations which will occur in long-term equilibrium according to the imputed value are eliminated after one-period, which means the slow adjustment process.

Keywords: BIST Food and Beverage Index, Thomson Reuters/CoreCommodity CRB Indices, ARDL Model, Error Correction Model, Global Financial Markets.
COMPETITIVE POSITION OF POLISH DAIRY ENTERPRISES - ASSESSMENT OF THE SUSTAINABLE DEVELOPMENT MODEL

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Abstract

The demand for dairy products largely depends on the population and the income of consumers. According to forecasts, the world's population by 2050 will increase by 30%, the rate of change on individual continents will be different. The largest population growth will be in Africa, even by around 20%, while in Europe it will decrease by around 3%. Population growth will result in an increase in global demand for food products. In Poland, the milk sector was largely influenced by EU integration. Poland gained access to new markets. The opening of the Polish economy has also caused unfavorable phenomena such as: the intensification of rivalry between existing companies and the entry of new, strong competitors in this transnational corporation. Polish dairy products are widely recognized, but mainly among domestic consumers. Given that the foreign trade of the Polish milk processing sector is characterized by strong concentration within the EU, expansion to further markets may be limited. Obtaining the opportunity to create a competitive advantage can only be possible in the event of modernization, restructuring and concentration of enterprises, and above all on high-quality product innovations. It is also worth recommending actions towards broadly understood sustainable development. These are: linking the issue of sustainable development with the company's strategy, offering competitive and innovative environmentally friendly products, influencing radical changes in consumer behavior, taking into account the issue of sustainable development throughout the entire supply chain, supporting business partners in making changes towards sustainable development, conducting analysis of the life cycle and use of production systems to reuse resources.

The article is a contribution to the search for new business solutions in the field of a sustainable business model of innovation for the Polish dairy sector

Keywords: Sustainable Development, Milk, Market, Business Model.

1. Introduction

The concept of sustainable development consists of stable, constant progress and meeting the needs of the present generation without diminishing the opportunities of future generations. Due to the fact that the world and the economy are in the period of "disturbed balance" countries and even regions bear its negative consequences. Social problems also overlap with ecological problems (Bocken, Short, 2012).

The importance of enterprises' activity towards the implementation of the concept of sustainable development is growing. These are: linking sustainable development with the company's strategy, offering competitive and innovative environmentally-friendly products, influencing radical changes in consumer behavior, integrating sustainability throughout the supply chain, supporting business partners in making changes towards sustainable development, conducting analysis of the life cycle and use of production systems that enable the reuse of resources (The Sustainability Leaders…, 2012).

The current demand for food products of good quality, which at the same time will be produced in a sustainable manner. This is related to the ever more accentuated new direction referred to as the "sustainable product philosophy", in this case for milk and dairy products. The milk market is one of the most attractive sectors of today's economy. It is characterized by high average profitability and a relatively large average annual growth rate. It also plays an important role in satisfying society's needs (Mierzwa, 2011).

Research shows that in the last two decades, Polish milk processing establishments have been modernized. Dairy plants in Poland have started to implement a sustainable business model based on maximizing material and energy efficiency. This is evidenced by activities such as the optimal use of resources at individual stages of production, reduction of water and energy consumption or reduction...
of pollutant emissions. The possibilities for further development of dairy companies consist in undertaking a series of activities tailored to the model of sustainable development, not only technological, but also in the field of social and organizational solutions. Their implementation may provide new sources of competitive advantage for companies in the era of growing competition.

The aim of the article is to present changes in the dairy sector in Poland. The detailed objectives of the analysis are:
- the scale of the investment phenomenon in the dairy industry over time, especially after Poland's accession to the EU;
- analysis of the scale of consumption of dairy products as an element of planning dairy companies' strategies.

The study was based on an analysis of the review of domestic and foreign literature as well as examples of good practices of dairy cooperatives in Poland.

2. Investments in the Dairy Industry in Poland

The inflow of foreign capital to Polish dairy came along with Poland's accession to the EU. There was a slight increase in the export of products to the EU market, but there was a large opening of the Polish market to foreign direct investments. Prior to joining the European Union, Belarus was the main export destination for Poland (82% of exports) and Russia (16%). However, the first foreign investments appeared in Poland already in 1993 when Hochland started the construction of a cheese production plant in Kazimierz near Poznań. In 1999, Turek District Dairy Cooperative sold 66% of shares to Bongrain S.A. As a result, until 2000 Polish foreign investment was owned by Nestle S.A., Danone, Raisio Group, Nutricia, Golden Vale plc, Charleville CO. Cork.

In the years 2008 - 2009, there was a very intense increase in the inflow of foreign direct investment (Figure 1). The first transnational corporations that have invested in milk processing in Poland are Danone, Lactalis, Arla Foods and Bongrain.

In 2010, there was a slight decline in foreign investment due to the economic crisis and then from 2014 a recovery. Only Mlekovita in 2009 invested / opened a plant for the production of mozzarella in Kaliningrad and in 2011 started the construction of a powdered milk production plant in Shanghai.

In the trading structure in Polish dairy products, powdered milk, butter and cheese play an important role.

Source: Own study based on data from the Polish Federation of Cattle Breeders and Milk Producers

Figure 1. The Inflow of Foreign Direct Investments to The Milk Processing Sector in Poland in the Years 1996-2016 (EUR million)
Polish dairying have turned many segments of the milk market into the hands of foreign companies, among others, the segment of children's nutrients, ice cream and milk products which has the highest profitability. For example, when in 1998 a German company, Zott, appeared on the Polish market, it launched an intensive expansion on the Polish market and gained about 20% share in the yoghurt market (Pietrzak, 2002).

Currently, Polish dairy cooperatives are very slow retaking this market. In comparison to other sectors of the food industry in Poland, the share of transnational corporations in revenues from sales of the dairy industry is at a rather low level. The decline in the importance of corporations in milk processing may also result from the fact of rebuilding a strong position by companies with domestic capital such as Mlekowita or Mlekpols, offering consumers innovative products of high quality and competitive prices (Wieczorkowski, 2015).

3. Production and Consumption of Milk in Poland

The relatively high milk prices on the market are due to the growing demand for milk in developing countries. When it comes to production, the largest producers of cheese in the world are USA, Germany, France, Italy, the Netherlands and Poland, total production in these countries constitutes 61% of world production. In turn, the largest butter producers in the world are USA, New Zealand, Germany, France, Russia, Turkey and Poland, together they produce over 50% of world production. The largest producers of skimmed milk powder are USA, New Zealand, Germany, France and Austria, which together provide 60% of world production (FAMMU/FAPA, 2019).

In the Polish milk processing sector in the years 1991-2016, the highest production dynamics occurred in the milk drinks segment, their production increased almost 8-fold, then cheese (also melted), over 5-fold increase, and almost a three-fold increase in the production of ripening cheeses and curd. The total production of cheese increased in Poland from 292,000 tonnes in 1991 to 858 thousand tons in 2016, the share of Polish cheese production in global production ranged from 2 to 4% and in European production from 4 to 7%. The share of Polish butter production in global production in the years 1990-2016 ranged from 3 to 5% and on the European markets from 5 to 8%. In contrast, the production of powdered milk in Poland in 1991-2016 decreased by 26%, and skimmed powdered milk increased by 10%. In the analyzed period, the share of Polish production of skimmed powdered milk in global production was at the level of 3 to 5% and in Europe's production from 6 to 11% (Baran, 2019).

Global consumption of milk and its products is on the rise. In the world, North America, Europe and Oceania have the largest per capita consumption tendency. The largest (two-fold) increase in milk consumption per capita was recorded in Asia, where there was an improvement in income and food standards, then in Latin America by 41%, Central America by 19% and Africa by 20% (Rynek Mleka, 2019).

According to IERiGŻ_PIB (2018) data, in comparison with other food products the dynamics of milk consumption in the world is smaller than in comparison to meat and fish products. However, in Europe, especially in the years 1990-2013, the situation was slightly different than in the world and the consumption of dairy products increased from 228 kg per person to 236 kg, while the meat consumption fell from 85 kg per person to 81 kg. Europe also has the highest consumption of butter, both in terms of overall consumption and per capita. Despite the fact that in the years 1990-1995 there was a more than 30-times percentage drop in butter consumption from 5.6 to 3.4 kg per capita in later years, the consumption remained on average at 3.3 kg per capita. The reason for the smaller consumption of butter were discussions and research results on the harm of milk fats, but by 2014 the consumption of butter increased on all continents. In Poland, the consumption of cow’s milk per capita in liters was growing (Figure 2).

The highest consumption of milk in Poland occurred in the mid-1980s and was at a level of 260-280 l per person. At the beginning of the 1990s, the real income of the population decreased and food prices increased, which led to a reduction in consumption, including dairy products. However, since 2006, an increase in domestic milk consumption has been observed. As a consequence, in Poland the consumption of milk and its products decreased from 280 liters in 1986 to 226 per person in 2018. The current consumption of milk and its products in Poland is one of the smallest in the European Union. It is forecasted that with the increase in consumer incomes in Poland, the demand for high processed
dairy products from the group of dairy products and for ripening cheeses will grow. Among the population with high incomes, the demand for basic full-fat dairy products (food milk, white cheese) will decrease (relatively cheaper and less processed).

However, a scenario related to healthy eating and the need for the least processed products is possible. In addition, there is a very individualized dairy offer - for demanding clients. For example, the market for protein powder and other high protein supplements offered by Mlekovita is a novelty. Highly protein products develop along with the trend for a healthy lifestyle and physical activity. The most popular in this segment are whey proteins, which play a very important role in the diet of people professionally practicing sports, as well as amateurs, active people and those who care about healthy lifestyle.

![Graph showing consumption of cow's milk in liters per capita in Poland from 2005 to 2018.]

**Source:** Own study based on IAFE-NRI data.

**Figure 2. Consumption of Cow's Milk in Liters Per Capita in Poland in 2005-2018.**

The increase in world population and consumer affluence will have an impact on milk consumption. However, the dynamics of consumption of milk and its products, but also the demand for meat or fish products, may vary. The demand for milk and dairy products in the world is diverse, in some regions of the world there are surpluses and in some cases shortages. Factors determining the level of consumption of milk and its products are on the one hand the purchasing power of consumers, and on the other hand the consumption model shaped by tradition, flavors, climatic conditions. Potentially in the world there is a large demand for milk and its consumption in many countries could increase.

4. **Competitive Position of Polish Dairy Products**

The share of Polish milk producers in global exports increases and gradually strengthens their competitive position. Price is an important competitive factor. In the years 1990-1999, import prices exceeded export prices from 1.4 to 2.4 times, then in 2000-2007 export prices were 16% lower than prices paid in imports, and since 2008 this difference has increased annually on average to 36%. Over the whole period, the directions of changes in export and import prices overlap, which confirms that they are dependent on the economic situation on external markets.

A wide range of high quality products offered in Poland and abroad can also be a competitive advantage.

In Poland, milk was for many years an anonymous product, not associated with any brand. Competition in this market was mainly based on ad hoc price reduction. However, in 1995, an initiative was taken to create a unique, perfectly recognizable UHT milk brand. The campaign turned out to be a success, so milk producers started investing in further commercial advertising campaigns.
for their own brands.

For example, the OSM Cooperative in Koło received the HALAL certificate for milk powders and the possibility of exporting to Muslim markets and the prize in the Ranking of the Major Cooperative Exporters of Dairy Products in 2017 (Koło, update date 17/07/2019).

An example can be Spomlek Cooperative, which operates in the HoReCa channel, it is an offer of cheese in the restaurant menu, on cheese boards offered in hotels. Spomlek, through his cheese, strives for the recommendations of the best chefs. “Amber”, “Ruby” and “Sapphire” cheeses according to experts, are the best long-ripening Polish cheeses that are produced in Radzyń Podlaski under the guidance of experienced cheese makers, according to traditional recipes. Dairy Cooperative Spomlek, emphasizes its success through cooperation with suppliers, it distinguishes the most modern and most prosperous farms and rewards high quality milk. The annual competition of cooperatives for suppliers selects winners in three categories: farms from 50,000. up to 200,000 liters of milk per year, up to 360,000 and above 360,000 liters of milk per year. The main prizes for winners in individual categories are cars (Spomlek, update date 17/07/2019).

The Piątnica cooperative offers demanding consumers a new Skyr yoghurt, made according to a traditional recipe, adored, among others, by in Europe and the United States, an Icelandic dairy product. The product is distinguished by high protein content, it is also free from fat. The product is particularly desirable by consumers who lead an active and healthy lifestyle (Piątnica, update date 17/07/2019).

The Mlekpol cooperative also sells a significant part of its production for export, sending its products to almost all countries of the world. They come to the European Union countries mainly to Italy, France, Germany, the Netherlands, Belgium, Spain, the Czech Republic and Great Britain as well as to Africa and the Far East. The export offer includes hard cheeses, skimmed milk powder, butter and whey protein powder (Mlekpol, update date 17/07/2019).

Mlekowita in 2017 was appreciated by the President of the Republic of Poland in the 15th edition of the Economic Award in the category "Responsible business". The value of exports in Mlekowita, especially to Germany, constitutes over 20% of all exports, in 2017 it sold on the German market, among others: 2,905 tons of hard ripening cheeses, 20,615 658 l of UHT milk, 2,620 tons of milk powders, 175 tons of butter. In 2018, during the Gala, held during the International Trade Fair of Food Products Polagra, Mlekowita was honored with the title “Leading Polish Food Exporter”. New on the market is the competitive Mlekowita product in 100% natural, pure whey protein concentrate in two variants: as Hercules WPC 80 and Super Body Active WPC 80. It is a rich source of wholesome proteins (including BCAA amino acids), which include contribute to the growth and maintenance of muscle mass, and calcium necessary for strong bones and healthy teeth. Especially recommended to athletes, especially representatives of body sports, strength and endurance sports, practicing bodybuilding or fitness, in which the demand for protein increases due to increased physical effort (Mlekowita, update date 17/07/2019).

However, in the case of Polmlek Group, exports account for 30 to 40 percent of all production, sent mainly to Arab countries, Asia, and also European Union countries. Foreign recipients include: EU, Great Britain, USA, Russia, Sweden, Hong Kong, Israel, Finland, South Korea, Libya, India, Kazakhstan, Georgia, Ukraine, China, Canada. The Polish company Polmlek Group is one of the main suppliers of dairy products to LIDL in Poland and in the world (Polmlek, update date 17/07/2019).

Unfortunately, according to analyzes, the competitive position of the Polish dairy sector in the international arena is getting weaker. The terms of trade index oscillated around 1, which means that the purchasing power of exports relative to imports is not higher and this is probably due to the lack of a clear improvement in price competitiveness. The reason for the situation is the strong competitive position of the milk processing sector in the EU, which is strengthened by protectionist agricultural policy and an extensive export support system (Baran, 2019). Polish dairy companies must look for new sources of competitive advantage. New business models towards sustainable development may become an element supporting the building of competitive advantage. Strategies related to socially responsible production and consumption.
5. Summary and Conclusions

1. The Polish dairy sector has changed from being anonymous to being a serious player on the European Union market. The milk processing sector in Poland has increased the number of foreign expansion markets from 51 to 125 countries.

2. The milk market is influenced by factors such as food expenditure, population in Poland and in the world, conditions for purchasing milk, self-sufficiency, labor costs, costs of raw materials, and business environment.

3. The accession to the European Union had a great impact on changes in the milk market in Poland. New markets were opened, but also other product policy began to shape. In Poland, consumer preferences are choosing products manufactured in Poland by domestic enterprises, which are very good quality and affordable.

4. The largest population growth will occur in Africa, America and Asia, the population will decrease only in Europe. The Polish dairy sector is competitive with global markets but not with the European market.

5. Gaining competitive advantages of the Polish milk processing sector is possible thanks to the modernization, restructuring and concentration of enterprises, which will contribute to the scale of production and improve the use of processing potential. More product innovations are needed that also better meet the needs of foreign consumers. Polish enterprises must seek new sources of competitive advantages, including efficiency and productivity gains.

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MARKET INTERACTIONS OF FARMS IMPLEMENTING A BIODIVERSITY PROGRAM: POLISH CASE

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Abstract

Attitudes and behavior of breeders in the exchange of knowledge testify to the condition of social capital that has been chosen to achieve the objectives of the Convention on Biodiversity.

Contemporary economic theories (NEI, game theory, behavioral economics) confirm the effectiveness of having a relationship. The sources of effective and optimal relations in economic processes are increasingly looking for.

The aim of the research was to indicative factors affecting the exchange of knowledge between farms with conservative breeds (of cows, pigs, and sheep) with institutions. The questionnaire (between 145 farms in south-eastern Poland) presented opinions in a scale of 1–5 points.

Multiple regression was used to indentificate factors that most affected the exchange of knowledge. The group of independent variables included x1 farmer's education, x2 direct production costs (PLN), x3 farm income (PLN), x4% of farm sales contracting, x5 farm area (hectares), x6 experience in farming animals of conservative breeds (years). Farmers rated the exchange of knowledge with institutions (industry, consultancy and local government) on a scale of 1-5.

Research results indicate that the most important institutions in the exchange of knowledge were agricultural advisory centers and industry organizations. Local government institutions from the immediate surroundings (municipal offices) proved to be irrelevant. The multiple regression analysis, in turn, shows that the exchange of knowledge with institutions was most significantly influenced by the direct costs of farms and the education of the farmer.

The condition of the breeders of conservative animal breeds does not interfere with the development of connections but also does not motivate for greater cooperation of farmers. From an economic point of view, knowledge-based relationships are cost-effective. "knowledge costs before it brings income".

The program of biodiversity protection of farm animal species requires from farmers the ability to manage economic relations. The results indicate that Polish farmers implement a biodiversity program for the protection of farmed animal species, creating the most numerous relationships with trade unions and advisory institutions. The basis for exchange in relations is knowledge, which indicates the constant need to educate and adapt the training offer by institutions supporting agriculture. The role of institutions in supporting the processes of biodiversity development is constantly growing. Market problems faced by farms with conservative breeds of animals require institutional support.

The quality of current relations between Polish breeders of conservative animal breeds does not generate exceptional development opportunities. The state of relations does not interfere with the development of connections, but also does not motivate for greater cooperation between farmers.

**Keywords:** Inter-Organizational Relations, Indicator of Intensity of Connections with the Environment, Animal Genetic Resources Conservation Program.

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LYCIAN PENTECONTERS: ANTIQUE MESSAGES IN COINS

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Abstract

The well known main functions of money in economics literature have been accepted as a medium of exchange, a unit of account, a store of value. In addition, the historical process of money has been shown significant knowledge from past to today in terms of economic development. Especially symbols and figures on coins have been provided visual contribution from early ages. This work is an attempt to show technological changes on Penteconters in Lycian time by using a visual presentation of art on money.

Penteconter representations, which are noteworthy in the coins examined within the Lycian Coins, transmit the hydrodynamic and aerodynamic developments of B.C. 5th century Lycian penteconters in a chronological process. The possible appearances of Lycian Penteconters of the 5th century were shaped by ceramic material and were colored with pottery pigmented, cooked at 900 C, sized as a result of two years of studies.

In the Lycian Coins other important examples are called the Apollo Coins. On the front of the Apollo coins there is a man's head interpretation depicted in the profile, which contains characteristic Apollonian elements and at the back there is a penteconter shaped from the starboard side.

In this exhibition, I have shaped the Penteconters and human profiles which are on the coins, in a three-dimensional form to be able to observe them. The anthropological characteristics of the sculpted characters became clear and also they appeared to different people. The Penteconters side coins shows the cronical changes on the ship techonolgy in Lycia time.

Keywords: Ancient Coins, Lycia, Penteconters, Economics History, Economics and Arts.
THE IMPACT OF SMES ON ECONOMIC GROWTH OF AZERBAIJANI ECONOMY: ENDOGENEITY AND LATENT INSTRUMENTAL VARIABLE

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Abstract

The relationship between SMEs and economic growth has been a centerpiece of public and scientific debates for the last several decades. There are two mainstream theories regarding the relationship of the two phenomena one of which is so called “modern theory” of SMEs mainly due to efforts of Berry and Mazumdar (1991) and Levy and Powell (1998). The proponents of the modern theory emphasize the significant role of SMEs in economic development relying on the stylized facts from European and other developed countries (Tambunan 2014). The second, so called “classical theory” of SMEs developed mainly by Hoseltitz (1959), Fisher (1967) and Anderson (1982) stresses that SMEs are not important at all in economic development, and rather any country should assist big enterprises with a bright future to achieve economic development because such organizations are going to predominate in the long run (Brako 2014). This diversity of opinions regarding the relationship of SMEs and economic growth is probably due to the endogeneity issue which arises in the context of bidirectional flow of causality between the two variables of interest. The second issue in determining the causal effect of SMEs on economic growth we have identified after a careful review of the literature, is mainly due to overreliance on cross-country data of SMEs. For example, Beck, Demirgüç-Kunt, and Levine (2005) use newly constructed database on the share of total manufacturing employment accounted for by SMEs to examine the relationship (Ayyagari, Demirgüç-Kunt, and Beck 2003). Such cross-country regressions are criticized on the grounds of the large differences among countries and impossibility of viewing them as being drawn from the same population (Levine and Zervos 1993). The third issue we have identified is due to the lack of the relevant instruments to use in instrumental variables regression as mentioned by Beck, Demirgüç-Kunt, and Levine (2005).

Considering all the issues identified so far, we seek to evaluate the effect of SMEs on economic growth of Azerbaijan using the panel data of such enterprises operating in 11 different sectors of the economy. Azerbaijan, being a post-Soviet country has invested a lot of resources in the development of its SME sector since its independence, and it is crucial to know whether such kind of policies are important for economic growth at all.

Moreover, to estimate the parameters we use latent instrumental variable (LIV) approach due to Ebbes (2004) and Ebbes, Wedel, and Böckenholt (2009) to get rid of the burden of the search for useful instruments. More precisely, the LIV model has the following form:

\[
\log(p_{cdp_{it}}) = \alpha_0 + \alpha_1 \log(SME_{it}) + \Gamma X_{it} + \epsilon_{it} \\
\log(SME_{it}) = \Pi Z_{it} + \nu_{it}
\]

In the above equation, \(\log(p_{cdp_{it}})\) is logarithmic transformation of the contribution of sector “i” to per capita GDP at time “t”. Moreover, \(\log(SME_{it})\) stands for the number of employees of SMEs in sector “i” normalized by the total labor in that sector at time “t”. Then, \(X_{it}\) is a set of control variables related to general business environment in sector “i” at time “t”. Finally, \(\epsilon_{it}\) is error term, \(\alpha_0, \alpha_1, \Pi, \Gamma, \nu_{it}\) are coefficients (\(\alpha_1\) being the coefficient of interest) and \(\Gamma\) is a vector of coefficients to be estimated. The second equation describes the relationship between the endogenous variable and set of discrete and unobserved instruments selected according to a specific procedure described in Ebbes (2004).

We believe that this study is novel, because to the best of our knowledge, no one has investigated SME and economic growth relationship in the context of Azerbaijan, even though there are many studies on SME and economic growth relationship per se. Indeed, the latter studies have been criticized on the grounds that the conclusions drawn about policy and growth relationships from cross-country regressions are invalid because of huge differences among countries (Levine and Zervos 1993).
The second distinct feature of this study is comprised in the fact that it is the first study analyzing the SME and economic growth relationship using LIV methodology in the framework of panel data of 11 economic sectors of Azerbaijan.

Ultimately, we would like to re-emphasize the importance of the analysis of SME and economic growth relationship in the context of Azerbaijan economy considering the tremendous effort put in the SME development by the latter in the last few decades.

**Keywords:** Small and Medium Enterprises, Economic Growth, Azerbaijan, Latent Instrumental Variable (LIV), Economic Sectors.

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DIGITAL ECONOMY: OPPORTUNITIES AND FUTURE CHALLENGES OF ISLAMIC ECONOMY IN INDONESIA

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Abstract

The emergence of technological innovation and economic digitalization through social media or shopping applications affects economics and social activities of the community. The economic system has changed from a conventional manual to a modern one. A simple conception of a digital economy is part of economics output that incorporates internet-based multipurpose technology applied in a varied digital business model of goods or services. Islamic economy support for the growth of financing through the digital economy and empowerment by the Islamic economy, it needs to be encouraged and maximized its role in e-commerce. Principle-based regulation can be one of the roles that can be taken in developing halal product innovations that are trending through the digital economy platform. With this technology, it is expected to be able to improve the sector of Islamic economy growth in Indonesian society. The Islamic economy is expected to be a bridge in the direction of financial inclusion in the digital economy, such as; (a) platform affordability in the unbanked segment, (b) strong collaboration between Islamic financial service providers through digital economy, (c) widespread digitalized Islamic banking practices, and (d) media for regulators of Islamic economy development, and (e) ladder to no longer be at the level of Small Enterprise but through start-up.

This study uses a quantitative approach with Muslim Indonesian as populations; samples are taken randomly using questionnaires as a research instrument, and then tested by statistical methods. Finding of this paper show that efforts to foster entrepreneurship, innovation, and economic growth, can be an opportunity to expand access, especially to Islamic economy inclusion. Besides, the digital economy is also expected to be a vehicle for sharing information in improving public services, funds or social services. The digital economy expected to have an opportunity to provide prime, fast and affordable Islamic economy services to all levels of society and makes economy activity efficiency and effectiveness.

Keywords: Islamic Economy, Digital Economy, Economic Growth.

1. Introduction

The emergence of technological innovation and economic digitalization through social media or shopping applications affects the economic and social activities of the community. The economic system has changed from a conventional manual to a more modern one. A simple conception of a digital economy, although not yet standard, is part of economic output that incorporates internet-based multipurpose technology applied in a varied digital business model of goods or services. Islamic economic support for the growth of financing through the digital economy and empowerment of the national economy by the Islamic economy needs to be encouraged and maximized its role in e-commerce. Principle-based regulation can be one of the roles that can be taken in developing Islamic product innovations that are trending through the digital economy platform. With this technology, it is expected to be able to improve the sector of Islamic economic growth in Indonesian society, with which, the Islamic economy is expected to be a bridge in the direction of financial inclusion in the digital economy, such as; (a) platform affordability in the unbanked segment, (b) strong collaboration between Islamic financial service providers through the digital economy, (c) widespread digitalized Islamic banking practices, and (d) media for regulators of Islamic economic development, and (e) ladder to no longer be at the level of MSME but through start-up. Efforts to foster entrepreneurship, innovation, and economic growth, can be an opportunity to expand access, especially to Islamic
Digital Economy: Opportunities and Future...

economic inclusion. Besides, the digital economy is also expected to be a vehicle for sharing information in improving public services, funds or social services and new technologies that are expected to have an opportunity to provide prime, fast and affordable Islamic economic services to all levels of society. Shopping for products by utilizing the e-commerce market is one example of the ease of community activities in the digital economy. This activity makes the efficiency and effectiveness of time on the side-lines of work activities that consume attention and extra energy, however, in reality, not all people feel the convenience and are helped by using digital economic applications or promotion of products through social media, this is due to the affordability of economic technology digital that has not been utilized by all levels of society. To know and analyze this phenomenon, it is deemed necessary to further research related to this, especially Islamic economic policy based on standard classification and its application.

2. Formulation of the Problem

The formulation of the problem in this paper is described as follows:
1. How does the digital economy influence the future opportunities of the Islamic economy?
2. How does the digital economy influence the future challenges of the Islamic economy?
3. What is the effect of the digital economy on the challenges and future opportunities of the Islamic economy simultaneously?

3. Research Purposes

The purpose of this paper is described below:
1. To analyze the effect of the digital economy on the future opportunities of Islamic economics
2. To analyze the effect of the digital economy on the future challenges of Islamic economics
3. To analyze the effect of the digital economy on the opportunities and challenges of the Islamic economy?

4. Literature Review

Kotler argues that there are things that affect sales volume, namely the presence of online applications that are connected through the internet network where consumers and business people can easily interact between directly, (Philip Kotler: 2005; 2). Meanwhile, according to Basu Swastha, there are three things, namely: type of goods, price, distribution, and promotion are factors that can affect sales volume, (Basu Swastha: 2001; 127-128). According to Daryanto, promotion is a one-way flow of information that directs the organization or someone intending to influence sales, (Ayu Sri Rahayu: 2018; 6). Meanwhile, according to Danang Sunyoto, promotion is a combination of advertising, publicity, face-to-face sales, public relations, and sales promotions, intending to increase a company’s sales volume. (Danang Sunyoto: 2015; 152). This indicates that the digital economy makes promotional media have a wider reach. The same thing was stated by Basu Swastha that the sales volume was influenced by the giving of gifts, promotions, campaigns, and demonstrations, (Basu Swastha: 2001; 131). Based on the theories that have been described, it can be concluded that if people use digital applications through social media or shopping applications, economic activity will increase. Bloomberg's global research said that by 2020 there were more than half of Indonesian people likely involved in e-commerce activities. (Liputan6.com: 2019 at 9:35). This is in line with Ernst & Young's analysis, in his research suggesting that in Indonesia each year, the growth in the value of sales of the digital economy has increased by around 40%. In 2020 it will increase gross domestic income by 22%, through the Indonesian online business revolution. (Kominfo.go.id:2019).

Based on these data, research is needed to explain the actual gap that is felt by the community in digital economic activities, given the potential development of digital applications both through social media and large shopping applications, the opportunity to support the development of the online digital economic industry in Indonesia through the Islamic economy. From this, the authors submit a paper by taking the title "Digital Economy: Future Opportunities and Challenges against Islamic Economics in Indonesia". The standard instrument for digital economic assessment is website quality, through several indicators used: (Ni Made Savitri and Ni Nyoman Kerti: 2012; 332)
a) Web information quality. This concept is defined as the quality of information presented on the website which is then assessed by the customer.

b) Web interaction quality. Namely the interactive nature and ease of use of the website to be assessed by customers.

c) Site design quality is a website interface that is assessed by customers for visualization in the form of website appearance.

d) Reliability. Can be interpreted into the reliability of online application services in providing services as promised, with this customer will then provide an assessment.

e) Responsiveness, which is an application service that is effective in responding online and responsively able to handle problems faced by customers related to the digital economy.

f) Assurance is a process of online application service transactions with guaranteed security of customer data, and then the user evaluates this.

g) Empathy is defined as an online application service in providing individual attention and then the customer is assessed.

5. Framework

From the framework of thinking above, the hypotheses described below:

1) \( H_0 = \) There is not an influence of the digital economy on the future opportunities of Islamic economy

2) \( H_a = \) There is an influence of the digital economy on the future opportunities of Islamic economy

3) \( H_0 = \) There is not influence of the digital economy on the future challenges of the Islamic economy

4) \( H_a = \) There is an influence of the digital economy on the future challenges of the Islamic economy

5) \( H_0 = \) There is not influence of the digital economy on the challenges and future opportunities of the Islamic economy simultaneously

6) \( H_a = \) There is the influence of the digital economy on the challenges and future opportunities of the Islamic economy simultaneously

6. Methodology

This study uses a quantitative approach, with an unlimited number of populations; samples are taken randomly using a questionnaire as a research instrument. The sample is then tested by statistical methods. (Wulandari: 2017; 10-11). In this study, three research variables were used which were classified into two namely:

1. The dependent variable in this study \( Y_1 \) is Islamic Economy Opportunities and \( Y_2 \) Future Challenges of Islamic Economy

2. The independent variable in this study is \( X \) Digital Economy. In this study, the preparation of an independent and dependent variable instrument, described as follows: (V Wiratna Sujarweni: 2015; 80).
Table 1. Operational Definitions

<table>
<thead>
<tr>
<th>Variable</th>
<th>Indicator</th>
<th>Items</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Economy / Shopping online application (X)</td>
<td>1. Web information quality</td>
<td>Web information quality the form of digital economy / online shopping application is designed to be easy to understand and clear</td>
<td>Anggraeni, Ni Made Savitri dan Ni Yasa, Nyoman Kerti, 2012.</td>
</tr>
<tr>
<td></td>
<td>2. Web interaction quality</td>
<td>Web interaction quality the appearance of a digital economy / online shopping application is interesting and informative, making it easy to use</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Site design quality</td>
<td>Site design quality Information on digital economic transaction design / online applications is easy to download and understand</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Reliability</td>
<td>Conformity between the real needs of the community compared to menus contained in digital economic transactions / online applications</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Responsiveness</td>
<td>Responsiveness Digital economy / online applications can be accessed anytime, anywhere</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. Assurance</td>
<td>Assurance Quietness in conducting transactions Digital economy / online applications have a good level of security so there are no worries Guarantee in the confidentiality of personal information on the digital economy / online applications or transaction activities carried out by the public</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. Empathy</td>
<td>Empathy Open 24 hour access to Digital Economy / Online shopping applications</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Digital economy / online shopping applications are never erroring when used by public</td>
<td></td>
</tr>
</tbody>
</table>

Through primary data in the form of interviews and questionnaires, interviews were conducted to find information related to the opportunities and challenges faced by the community in the Islamic economy. The questionnaire was used to determine the response of respondents regarding the variables in the study.

7. Data Analysis

Several steps were taken to analyze quantitative data, as follows:

a) Test Instrument, Pearson Product Moment Correlation, used in testing the validity of this study. To measure reliability in this paper, the authors take Cronbach Alpha, because the variable is said to be reliable if the Cronbach Alpha value is greater than 0.6 b) Classic assumption test, if the BLUE (Best Linear Unlock Estimator) criteria, in the multiple linear regression model, is achieved, the model can be said to be good and the classical assumptions can be met. There are conditions in the classic

c) Multiple Correlation Analysis, product-moment Pearson correlation analysis is used as a multiple correlation test in this study, the correlation is positive if Pearson correlations and r count values are positive.

d) Coefficient of Determination, to know the percentage of the effect of e simultaneously on the dependent variable, the coefficient of determination test is used in this study. The coefficient of determination in this paper is seen from the value of R square and Adjust R Square in the model summary table.

e) Hypothesis testing, the t-test in this study was used to explain whether the variable (X1) of the Digital Economy individually influenced the dependent variables in this paper, namely: (Y1) Islamic Economy Opportunities and whether the variable (X1) of the Digital Economy individually influenced the other dependent variables in this paper (Y2) Future Challenges of Islamic Economy. The F test in this paper is used to explain whether the variable (X1) Digital Economy influences the dependent variable in this paper (Y1) Islamic Economic Opportunities and (Y2) Future Challenges of Islamic Economy simultaneously (together).

8. Results and Discussion

1. The Effect of the Digital Economy on the Future Opportunities of the Islamic Economy

Nowadays the development of information and communication technology has made various updates on various lines of life; Islamic banking and Islamic entrepreneurs are expected to be able to answer these opportunities at the practical level in pioneering and managing Islamic entrepreneurial businesses in anticipation of limited employment. Today's digital economy gives Islamic economy opportunities to be able to take full advantage, especially in the area of Islamic banking which is starting to show its stretch. Ease, comfort, speed, efficiency, security, and flexibility of economic transactions are expected to be able to be obtained from the use of the digital economy so wide community can run their business even though they have high mobility. Economic activities such as online payment transactions are not only easy because they can be carried out by sellers/producers as well as from buyers/consumers who are all included in Islamic entrepreneurs, but also involve Islamic banking, so both parties have easy access to make transactions with the aim of Islamic economy activities would increase periodically. According to the results of the previous test, the significance value of the variable is 0.00 < 0.05 and the value of t count > t table is 3.756 > 1.6595 so that H_0 is rejected and H_1 be accepted. This means that the digital economy variable partially influences the economic opportunities of Islamic to widen and flap its wings.

Meanwhile, the digital economy has access for 24 hours, it means this can be done whenever and wherever the usage space of digital economy applications is flexible so anyone who makes transaction could immediately do so and also pay it. In conventional sales, systems are difficult to find it because consumers are required to go to the market or conventional shop and if they desire a transfer system, the buyer must come to the bank or through an ATM. In general, buyers/consumers feel reluctant, especially if they have important activities which difficult to leave, it would increase the failure possibility of purchase transactions. The digital economy is gradually anticipating this matter, trying to maintain the trust of consumers/buyers by giving a good impression in trust between two parties so that Islamic economy transactions and activities could increase and the opportunities can be utilized optimally.

2. The influence of the digital economy on the future challenges of Islamic economy

One of the result of technological developments in the field of communication is social media. One part of economic activity in the digital economy is sales through social media. These economic activities include promotion through social media, and this is also one of the challenges in the future of Islamic economy: how to make social media "work" because it has a very wide network and access almost every time. Based on the results of previous tests stated that the obtained variable significance value of 0.00 < 0.05 obtained the value of t arithmetic > t table is 6.069 > 1.6595 so that, H_0 is rejected and H_1 is accepted. This result means that the digital economy variable partially influences the Islamic economy challenge variable. The majority of Muslim
consumers currently carry out Islamic economy activities through the digital economy. The digital economy has formed a new marketing space whose scope is very accurate, fast and broad. Personal marketing networks can be formed by producers/sellers with Muslim consumers, while sellers/ producers could directly build and introduce their products to the "world" with a "finger" through the digital economy. One of the promotion challenges is interesting content to getting attention from the customer. Another challenge for Islamic economy, how to make consumers/communities interested in carrying out with Islamic economic activities, both Islamic entrepreneurs and Islamic banking, they must be able to prove that economic activities are worthy transactions with quality of goods because it urgent things so Muslim consumers do not feel cheated or disappointed. This is very important because in this digital economic system the physical form of the product is indirect and tangible, buyers/consumers cannot see and know it.

3. The influence of the digital economy on the challenges and future opportunities of the Islamic economy simultaneously

According to Basu Swastha, other factors such as advertising, demonstration, campaign, and gift-giving, are things that affect sales, because it is expected with these factors consumers will make economies activities again and again, so that Islamic entrepreneurs and Islamic banking would be able to take advantage of opportunities as well as answer the challenges and finally the wheels of Islamic economic growth could accelerate. Based on the results of previous tests, the significance value obtained 0.00 <0.05 and the calculated F value > F table is 63.444 > 3.93. This shows that H_0 was rejected and H_1 was accepted. This means, the digital economy simultaneously influences (together) the challenges and opportunities of Islamic economics.

Islamic economists must be able to translate about digital economy development which also provides new opportunities and challenges that are not easy. The ability to adapt will be able to make Islamic entrepreneurs and Islamic banking develops rapidly, because the main key to economic transactions both online and conventional is honesty and trust between producers/sellers and consumers/buyers, so it should be prioritizing and maintaining Islamic economy values and principles well. There are several important things in this paper as evaluation and improvement to be better formulation for Islamic entrepreneurs and Islamic banking, include:

1) To increase Islamic economy activities, Islamic economists should try hard effort to answer the challenges of the digital economy as well as opportunities itself.

2) The enormous potential possessed by the digital economy is social media expected to be able to maximize the productivity and value of benefits that could be taken for Islamic economists through Islamic entrepreneurs and Islamic banking.

3) One of the challenges for the Islamic economy is expected to be able to well adapt to the digital economy today. In various lines of life and business fields, the Islamic economy is developing rapidly along with the entry of information and communication technology that offers easy access to various lines of life. New Islamic business sectors that have sprung up, especially those using online systems need new business strategies so the Islamic economy could develop. Dynamic competition also requires high adaptability so Islamic economic activities could learn and not lag behind competition, it just because the true use of the digital economy is only a small simulation of the large changes in economic activity out there. Based on the explanation above, an in-depth evaluation is needed; this is related to the obstacles faced in implementing the digital economy in Indonesia. Furthermore, Islamic entrepreneurs and Islamic banking are expected to constantly evaluate strategies in stages to read opportunities and respond to the challenges of the digital economy. This paper has limitations because of adoption from research with the same theme of analysing the factors that affect sales volume consisting of two variables, use of an online banking application and promotion through social media.

9. Conclusions

Based on the discussion above, there are important things that need to be underlined as follows:

1) The development of digital economy service features are expected to support Islamic economy activities to increase Islamic economy transactions.
2) The great potential of the digital economy that supports economy activities in Islamic entrepreneurs and Islamic banking is expected to be a solution to the general problems faced at the practical technical level in conventional economy transactions.

3) Creativity in promoting is urgently needed, by utilizing social media optimization to increase Islamic economy transactions.

4) Islamic Economy is expected to be able to answer challenges utilizing good management through the use of digital economy applications with the credibility of the payment system through promotion to increase Islamic economy transactions.

5) Islamic economy is also expected to be able to read opportunities and also respond to challenges of internet networks, social media and their digital applications as well as devices in other digital economy, given the enormous benefits in using the internet, applications and other social media if they managed properly, especially in the field of Islamic entrepreneurship and Islamic banking.

6) Digital economy users should get priority trust and honesty, especially in the case of payments using the online system, and to Islamic institutions that already trusted such as Islamic banking, costumer should achieve data security.

References


Kotler, Philip, 2005 Manajemen Pemasaran Ed. 11, Jilid 1, Jakarta: PT. Indeks.


Abstract

The Home Market Effect (HME) provides a mechanism for trade driven by demand: locations with a comparatively large consumer base for an industry specializes in production of that industry, and exports to the rest of the world. The theory originates with Krugman in the 1980s, yet, despite the many iterations since, sharp theoretical predictions are only given in two-location models. As the world has more than two locations, empirical operationalization requires, therefore, assumptions outside of the model. By making only a single additional assumption relative to the canon — the inverse trade freeness matrix has diagonal greater than the identity — I prove that the HME continues to hold in many location models on average. Furthermore, the empiricist needs to make little amendment: the HME hypothesis test valid in many-locations is almost identical to that already being implemented using the two-location hypothesis.

Keywords: Home Market Effect, Many Locations.

1 I would like to thank Treb Allen, Gideon Bornstein, Kiminori Matsuyama and Marti Mestieri. I would also like to thank seminar attendees for feedback at Aarhus University and Northwestern University.
CONSUMER CONFIDENCE AND THE HOUSING MARKET IN TURKEY

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Abstract

The sales amount is an important indicator for a country and the sales amount of houses depend on the confidence of the consumers as the demand of the consumers changes according to the economic condition of the countries'. In this direction, the purpose of this study is to examine the short term (causality) and long term (cointegration) relationships between consumer confidence index and total home sales, between consumer confidence index and total mortgage sales. The period that is covered in the study is between 2003:01-2019:06 and the frequency of the data is monthly. The data of consumer confidence index, total home sales and total mortgage based home sales are obtained from the Electronic Data Delivery System (EVDS) of the Central Bank of the Republic of Turkey. In the study both short term and long term relationships between the variables are concerned. The analyses are performed by using Johansen cointegration and Granger causality tests to clarify both short term and long term relationships. When the empirical findings of the study are evaluated, it is possible to say that there are bi-directional short term causality and long term relationships between consumer confidence index and total house sales, consumer confidence index and total mortgage sales. Overall, both the results of the short and long term relationships indicate that consumers tend to buy houses when they are more optimistic on the economy and vice versa. Moreover, as the consumers buy more houses, their confidence on the economy increases.

Keywords: Consumer Confidence Index, Housing Market, Co-Integration, Causality, Turkey.

1. Introduction

Confidence is very important in general economy. Consumer confidence is a reflection of consumers’ perceptions related to both current and future economic conditions. For housing sales, consumer’s confidence index data takes an important part. The consumers demand changes according to the situation of the economy. In Turkey, consumer confidence index is formed from consumer tendency survey results which are published by the collaboration of the organizations Turkish Statistical Institute (TURKSTAT) and Central Bank of the Republic of Turkey (CBRT). Consumer confidence index is composed of four sub-items which are expectation of the financial situation of the household, overall economic situation expectation, number of unemployed expectation and probability of saving. The index formed is seasonally adjusted. As in many other sectors, consumer confidence in housing sector is a determinative factor in the sales of the houses.

When looked to the literature it is possible to see the studies in both directions. In some of the studies the consumer confidence affects the buying attitudes of the consumers whereas in the others vice versa. Among the studies that find relationship between consumer confidence and economic variables, Celik and Ozerkek (2011) have analyzed the long run relationship between consumer confidence and economic and financial variables for some of the European Union countries using panel data analysis. Olowofeso and Doguwa (2012) investigate the relationship between consumer sentiment and consumption expenditures for Nigeria. Their findings assess that the confidence index can affect the economic performance and shows that it is good at predicting household consumption growth in Nigeria. The study of Belessiotis (1996) examines the relationship between consumer confidence and consumer spending in France. The results of the study indicate that consumer confidence index has explanatory power for future consumer spending. Afshar and Zomorrodian
(2007) analyze the relationship between three confidence measures and economic fluctuations, using quarterly data for the U.S. from 1980 to 2005. They find that causality relationship from confidence measures to GDP and that these three measures play crucial roles in economic fluctuations. In the studies that find mixed results, Kwan and Cotosimitis (2005) report that consumer sentiment is a reliable predictor of consumer expenditures for Canada, but the results obtained using regional data are quite mixed. Kamakura and Gessner (1986) state that consumer confidence can only predict the consumption of a few durable products such as new cars and housing. Garrett et al. (2004) test whether consumer confidence predict retail spending at the level of US states. They report that consumer confidence predicts retail sales at national level, but their results show that there is a poor relationship between consumer confidence and growth in retail sales in many states.

For the studies that find no effect, Fan and Wong (1998) find that confidence indicators in Hong Kong have little or no explanatory power in forecasting household spending. Berry and Dvey (2004) do not find a statistically significant relationship between unexplained changes in consumer confidence and retail sales for UK.

In this study, the short term (causality) and long term (cointegration) relationships between consumer confidence index and total home sales, between consumer confidence index and total mortgage sales are examined for Turkey. In the following part of the paper, the research methodology and empirical findings are reported and the paper concludes in the last part.

### 2. Research Methodology and Empirical Findings

The data of consumer confidence index, total home sales and total mortgage based home sales are obtained from the Electronic Data Delivery System (EVDS) of the Central Bank of the Republic of Turkey. The data used in the study are seasonally adjusted. The period that is covered in the study is between 2003:01-2019:06 and the frequency of the data is monthly. In the study both short term and long term relationships between the variables are concerned. Firstly, the stationarity of the variables used in the study are tested using Augmented Dickey-Fuller (Dickey and Fuller, 1979) unit root test. As shown in table, they are found to be integrated at order 1, \( I(1) \).

#### Table 1. Augmented Dickey Fuller Unit Root Test Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>ADF</th>
<th>ADF(I)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intercept</td>
<td>Trend and Intercept</td>
</tr>
<tr>
<td>Consumer Confidence</td>
<td>-2.799* (0.063)</td>
<td>-3.074 (0.12)</td>
</tr>
<tr>
<td>Total House Sales</td>
<td>-1.840 (0.359)</td>
<td>-1.398 (0.854)</td>
</tr>
<tr>
<td>Total Mortgage Sales</td>
<td>1.501 (0.999)</td>
<td>0.569 (0.999)</td>
</tr>
</tbody>
</table>

**Notes:** Mac Kinnon (1996) one-sided p-values. *** and * denote significance at 1% and 10% significance levels respectively.

#### Table 2. Johansen Cointegration Test with Consumer Confidence and Total House Sales

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Eigenvalue</th>
<th>Trace Statistic</th>
<th>CV(5%)</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>0.477</td>
<td>76.730***</td>
<td>15.494</td>
<td>0.000</td>
</tr>
<tr>
<td>At most 1</td>
<td>0.321</td>
<td>28.712***</td>
<td>3.841</td>
<td>0.000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Eigenvalue</th>
<th>Max-Eigen Statistic</th>
<th>CV(5%)</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>0.477</td>
<td>48.018***</td>
<td>14.264</td>
<td>0.000</td>
</tr>
<tr>
<td>At most 1</td>
<td>0.321</td>
<td>28.712***</td>
<td>3.841</td>
<td>0.000</td>
</tr>
</tbody>
</table>

**Notes:** Mac Kinnon-Haug-Michelis (1999) p-values, *** denotes significance at 1% significance level.
The results of the tests are reported (see Table 1). The test results indicate that, the variables used in the study are integrated at order 1 \(I(1)\). As a methodology, firstly to test the long run relationships among the pairs (consumer confidence index - total house sales and consumer confidence index - total mortgage sales), Johansen (1988) co-integration model is applied. The relationship between consumer confidence index and total house sales, between consumer confidence index and total mortgage sales are reported (see Table 2 and Table 3). The results show that there are long term relationships between the variables.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Eigenvalue</th>
<th>Trace Statistic</th>
<th>CV(5%)</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>0.219</td>
<td>24.304***</td>
<td>15.494</td>
<td>0.0018</td>
</tr>
<tr>
<td>At most 1</td>
<td>0.099</td>
<td>7.182***</td>
<td>3.841</td>
<td>0.0074</td>
</tr>
</tbody>
</table>

Notes: Mac Kinnon-Haug-Michelis (1999) p-values. *** and ** denotes significance at 1% and 5% significance levels respectively.

Table 4. Granger Causality Test with Consumer Confidence and Total House Sales

<table>
<thead>
<tr>
<th>Variable</th>
<th>Consumer Confidence (Dependent)</th>
<th>Chi-Sq</th>
<th>df</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total House Sales</td>
<td>Chi-Sq</td>
<td>7.344**</td>
<td>2</td>
<td>0.0254</td>
</tr>
<tr>
<td>(Independent)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumer Confidence</td>
<td>Chi-Sq</td>
<td>26.985***</td>
<td>2</td>
<td>0.000</td>
</tr>
<tr>
<td>(Independent)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: *** and ** denote significance at 1% and 5% significance levels respectively.

Table 5. Granger Causality Test with Consumer Confidence and Total Mortgage Sales

<table>
<thead>
<tr>
<th>Variable</th>
<th>Consumer Confidence (Dependent)</th>
<th>Chi-Sq</th>
<th>df</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Mortgage Sales</td>
<td>Chi-Sq</td>
<td>15.089**</td>
<td>7</td>
<td>0.0349</td>
</tr>
<tr>
<td>(Independent)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumer Confidence</td>
<td>Chi-Sq</td>
<td>19.630***</td>
<td>7</td>
<td>0.0064</td>
</tr>
<tr>
<td>(Independent)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: *** and ** denote significance at 1% and 5% significance levels respectively.

The short term relationship (causality) between consumer confidence index and total sales amount, between consumer confidence index and total mortgage sales are tested using Granger causality test. It is reported that the short term relationships between the variables (see Table 4 and Table 5). The results of the analysis show that there are bi-directional causality relationships. The test results reported that there exist short run relationship between consumer confidence index and total house sales, between consumer confidence index and total mortgage sales.

3. Conclusion

One of the important factors in economy is the consumer confidence which shows the consumers' perceptions on the economic condition of the countries. The sales of the houses also depend on the confidence of the consumers as the demand of the consumers changes according to the economic condition of the countries. Due to the importance of this relationship, in this study, it is aimed to analyze the relationships between consumer confidence index and total home sales, between consumer confidence index and total mortgage sales. The findings of our models shows that there is bi-directional short- and long term relationships between consumer confidence index and total house sales. The same relationship exists between consumer confidence index and total mortgage sales also.
When the results of the analysis are evaluated, the existence of the short and long term relationships show that consumers are more willing to buy houses when they feel more optimistic related to the economy and vice versa. In addition, as the consumers continue buying houses, their confidence related to the economy increases.

References


Abstract

This paper revisits the relationship between trade openness and growth. Our objective is to show, both theoretically and empirically, that the growth effect of trade is conditional on the type of products that are traded. Any trade openness index that includes all types of trade would lead to a measurement error in the independent variable and may falsely predict a weak or insignificant relationship between trade and growth. In empirical literature, traditional measures of trade openness fail to make this distinction. We find that in order to establish a relation between trade and growth, it is important to include trade in intermediate goods and trade in final consumer goods as separate components in our analysis. Although static gains shall accrue from trade in both these types of goods, we hypothesise that it is openness with respect to intermediate and capital goods that matters for growth. In this paper, we measure trade openness indices separately with respect to intermediate inputs and final goods and find that it is the former which turns out to be significant in explaining growth gains from trade at both the sectoral level as well as the aggregate economy level. Using sectoral level data from WORLD KLEMS (Capital, Labour, Energy, Materials and Service) Database on industrial productivity and output and global input output tables from World Input Output Database (WIOD), to construct the measures of trade openness, our empirical analysis covering 21 countries, 30 industries and 15 years reveals that trade openness in terms of intermediate and capital goods lead to economic growth. Employing dynamic panel estimation technique, our GMM estimates show that a 10% increase in trade openness in terms of import of intermediate inputs leads to an increase in industrial productivity in the range of 1.9% to 0.3%. Openness in terms of import of final consumer goods turns out to be insignificant in most specifications. We also estimate traditional cross country growth regressions where we use highly disaggregated trade data to construct the two trade openness indices for 174 countries. Here again, we find that it is import of intermediate and capital goods that results in real per-capita income growth. Our empirical results are in line with our theoretical model, where we show, how trade in intermediate goods in an endogenous growth framework, directly leads to growth, as opposed to trade in final goods. We show that this occurs independent of any external structure that is imposed on the basic model of trade.

Keywords: International Trade, Endogenous Growth, Trade Openness, Intermediate Inputs, Dynamic Panel.
EVALUATING THE DYNAMIC FORECASTING PERFORMANCE OF BIST ISTANBUL, ANKARA AND IZMIR INDEX VOLATILITIES

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Abstract

In Borsa Istanbul, volatility data is calculated as subtracting five different trading days from the current trading day. From these calculations, the shortest-term period, the medium-term calculation period and the longest-term period are determined as 21, 63 and 252 respectively. Within the scope of our study, the aim is to analyse the dynamic forecasting performance of volatilities of Istanbul, Ankara and Izmir city indices, which are the three biggest cities in our country, in the context of BIST by subtracting these three trading days (21, 63, 252 days ) from last analysis day in 07/01/2010 – 07/01/2019 period. Before the dynamic forecasting analysis, stock market returns are calculated by closing prices of BIST Istanbul, BIST Ankara and BIST Izmir city indices in the analysis period. It is determined that stock market returns are applicable for ARCH/GARCH type volatility models depending on showing ARCH effect. For each city index, return volatilities are estimated by using five ARCH/GARCH type model as ARCH (1), GARCH (1,1), EGARCH (1,1), TARCH (1,1) and CGARCH (1,1) models in three different periods. Based on these estimations, models through dynamic forecasting method are compared to determine the model providing best forecasting by using the results of the Theil inequality coefficient (TIC) and root mean squared error (RMSE). In the result of the analysis, two models providing the best forecasting in all periods for all stock markets are identified. These are CGARCH (1,1) model which analyse the short-term and long-term movements of the volatilities and GARCH (1,1) model which is one of the symmetric models and generally used in the studies. When evaluating the results based on the index, it is seen that the model providing best forecasting is GARCH (1,1) model according to the TIC and RMSE results in the model which subtracts 21 trading days from BIST Istanbul city index. When 63 and 252 trading days in the model are subtracted, the best model is CGARCH according to the TIC results. However, the results of RMSE show that while the best forecasting model is CGARCH when subtracted 63 days, three different models (ARCH, EGARCH, TARCH) are obtained as the best forecasting model when subtracted 252 days. The best forecasting model is found as CGARCH (1,1) in the models subtracting 21 and 63 trading days of BIST Ankara city index in terms of the two evaluation methods. In the models subtracting 252 trading days, TARCH (1,1) model according to RMSE results and CGARCH (1,1) model according to TIC results are determined as the model providing best forecasting. In BIST Izmir city index, the best and the second-best model showing the forecasting performance are determined as CGARCH (1,1) and the symmetric models (ARCH or GARCH), respectively, in all models.

Keywords: BIST City Indices, Dynamic Forecasting Methods, Theil Inequality Coefficient, Root Mean Squared Error, ARCH / GARCH Models.
FEATURES OF MANAGEMENT BY PROFESSIONAL AND PERSONAL DEVELOPMENT OF PERSONNEL: THE CASE OF UKRAINE

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Abstract

The purpose of the article is to study the factors of influence and provide recommendations for improving the system of management of professional and personal development of personnel of the enterprise. It has been established that effective means of ensuring successful innovation development are effective personnel management through promotion of professional and personal development. At enterprises where serious attention is paid to this issue, the innovative component is essential, which ensures the appropriate success of the business entity in the real economic space. It has been found that despite the presence of a relatively large number of scientists and engineers, Ukraine has a low quality of research institutes and ability to innovate, which is confirmed not only by the lack of cooperation between universities and industry in research and development, the low cost of companies for research and development and public procurement of high-tech products, but also the actual inability to retain and attract talents for economic activity. It is substantiated that the definition of the boundary of the production load will not only establish an effective bonus system, but also increase the level of job satisfaction among subordinates. This will contribute to reducing staff turnover, reducing the level of waste and waste in the production of products, and the probability of injury in the workplace, etc. In order to objectively evaluate the achieved results, a methodical approach is proposed to determine the competence coefficient of experts involved in the assessment, taking into account their work experience, the magnitude of management activity, and the level of education.

The above will allow to maximize the effectiveness of the conducted rating assessment and coordinate efforts and resources of employees to improve the identified and relevant indicators for the enterprise.

Keywords: Professional and Personal Development, Institutions of Higher Education, Gross Domestic Product, Coefficient of Competence, Marginal Limit of Production Load.

1. Introduction

Modern business practice has proven that the success of the business entities of all forms of ownership directly depends on the effectiveness of personnel management. Considering that staff is the most valuable resource, the use and development of which depends on the effectiveness of the entire production process, the formation and implementation of an effective strategy for its use and development is a priority task for the management of enterprises, institutions and organizations of all forms of ownership. Continuous development of the personnel is able to provide the entity with long-term competitive advantages. An important component of personnel development is the formation of a mechanism for managing its professional career.

Research and solving contemporary problems hampering the development of professional career personnel is one of the most urgent tasks not only for management of business entities, but also for society as a whole. We agree with the authors of Derkach AA, Zazykyn VH, Markova AK (2000) that the current social situation in Ukraine not only radically changed ideas and values, but also gave rise to an uncertain, often unreasonable, attitude to many values and norms, including values career, personal development. Therefore, ensuring compatibility of career growth and personal self-realization is one of the key tasks for top management of enterprises. The combination of these lines of professional and personal development is not explicit and not always harmoniously combined. This
features of management by professional...

Conflict of various components of self-realization is particularly clearly manifested in the objectification of the driving forces of this process and the criteria for its success. The criterion for the success of professional self-realization and the demand for the chosen profession can be career growth, which in one way or another allows us to assert that both the competence of a person and his satisfaction are the result of his professional activities. The criterion for the success of personal self-realization is the presence of a family, private personal life, hobbies, etc., which allows you to determine the level of happiness and the pleasure received from life.

The purpose of the article is to study the factors of influence and provide recommendations for improving the system of management of professional and personal development of the personnel of the enterprise.

2. Methodology

The methodological basis of the study consisted of scientific works of domestic and foreign scientists and leading specialists, statistical and analytical materials of state authorities. As a method of data collection for the research was chosen a questionnaire. The questionnaire research was carried out in selected higher education institutions (Kherson State University), local authorities (Department of Economic Development and Trade of Kherson Regional State Administration; Main Department of the State Fiscal Service of Ukraine in Kherson region, Autonomous Republic of Crimea and Sevastopol), trade union organizations (Kherson regional inter-branch council of trade unions), leading enterprises of Kherson city ("Amalteya" LLC, "Leather Plant" Platan LTD "Ltd.) and public organizations (Business Association "MI-KHERSONTS"). The results are obtained through the use of such methods as: expert - to identify the impact of qualitative and quantitative indicators on the socio-economic development of Ukraine; economics and mathematics - to study the impact of the main indicators of activity and performance of institutions of higher education and purchasing power of the population on the total volume of gross domestic product; correlation-regression analysis - to find out the relationship between the productive factor and the identified factors; abstract-logical - for theoretical generalization and formulation of conclusions.

The study of the specifics of the training of labor resources was conducted using official statistical reporting on the activities of institutions of higher education in Ukraine.

In determining the optimal production load, the results of an empirical study on the specifics of the operation of the plant for technical and service maintenance of LLC "Avtoplanet Plus" (Kherson, Kherson region, Ukraine) were used.

3. Results and Discussions

3.1 Investigating the Specifics of the Training of Labor Resources in Institutions of Higher Education of Ukraine

The success of professional career growth depends to a large extent on the effectiveness of the first steps in learning and professional activities. Education and career choices are important for further life and professional development.

At the first stage of personal development young people are often assumed to have significant mistakes. For example, when studying in a particular profession, some people are convinced that one day will not work in a specialty, because it is not prestigious, unprofitable or hopeless (Makarenko S. M., Kapлина Y. O., Kazakova T. S., 2018). And this person is trained only because of the fact that in the specialty there was a place for a public order. The above leads to a low level of motivation among students for obtaining qualitative knowledge in the chosen profession and inappropriate use of budgetary funds for training specialists on a state-commissioned basis. This is confirmed by the materials published by the World Economic Forum on the World Economic Ranking by the Global Economic Competitiveness Index 2017-2018 (Economic Discussion Club 2018). Thus, despite the improvement of the position on four points, Ukraine ranked 81st among 137 countries of the world. Most was lost due to the "Labor Market Efficiency" component, which made Ukraine the 86th place, having lost 13 points in comparison with 2016-2017 and 30 points in comparison with 2015-2016.
There were also lost 2 points for the component, which characterizes higher education and professional training.

Despite the relatively high positions as part of "higher education and training" (35th place in 2017-2018 among 137 countries of the world), the quality of management schools in Ukraine is very low (88th place), as well as the level of personnel training at the training at the place of work (88th place). Ukraine also ranked 51st in terms of primary education. And this is despite the fact that Ukraine is 25th in the presence of scientists and engineers.

The above analysis shows that in spite of the relatively large number of scientists and engineers, the low quality of research institutes (60th place) and innovation ability (51st place) are observed in Ukraine, which is confirmed not only by the lack of cooperation between universities and industry in research and development (rank 73), low-cost research and development companies (76th place) and state-owned high-tech procurement (96th place), but also the inability to retain and attract talent in economic activities (respectively 129 and 106 places). That is, the knowledge acquired by the modern scientific community that has remained in Ukraine in most cases is theoretical and is not possible for the effective use of business in the current conditions of an unstable internal and external business environment.

For a more detailed analysis using the knowledge and experience of the leading experts of the educational branch, local authorities, budgeting enterprises and organizations of Kherson (Kherson region, Ukraine) in the scientific work Makarenko S.M., Oliinyk N.M., Kazakova T.S. (2018), the influence of the main indicators of activity and efficiency of institutions of higher education and purchasing power of the population on the total volume of gross domestic product.

According to the views of the respondents, it was found that the following indicators have the greatest impact on the total gross domestic product (Y):
- average number of economically active population aged 15-70 years (X1);
- number of graduates from higher education institutions (X2);
- number of graduates (X3);
- number of people who have completed doctoral studies (X4);
- real wage index (X5).

Using the formula for calculating the pair correlation coefficients and official materials of the State Statistics Service of Ukraine for the years 2010-2017, the following relationship was established between the indicators and the result factor:
- \( r_{yx1} = 0.9319 \) – according to the scale of the relationship of variables, the relationship between Y and X1 is considered to be very high, and therefore the impact of this factor on the final result is significant;
- \( r_{yx2} = 0.839 \) – the relationship between Y and X2 is considered high;
- \( r_{yx3} = 0.7648 \) – the relationship between Y and X3 is considered above average;
- \( r_{yx4} = -0.5691 \) – the relationship between Y and X4 is considered average;
- \( r_{yx5} = 0.4334 \) – the relationship between Y and X5 is considered below average.

The calculations show that an increase in X4 (the number of people completing doctoral studies) has a negative impact on the overall Y (gross domestic product at constant 2010 prices). This can be argued that in the current conditions of development of science in Ukraine, the defense of the dissertation for the degree of Doctor of Sciences is in some cases theoretical in nature, without the possible implementation of the results obtained in the practice of domestic economic entities of all forms of ownership. As a consequence, the rate of increase in the level of remuneration of employees who successfully defended their dissertation far exceeds the rate of increase in their productivity and efficiency. In some cases, when the dissertation works on obtaining a doctorate of science highlight relevant issues for society and business and provide an effective mechanism for solving them, at the stage of preparation of the dissertation the doctoral students are attracted to foreign companies in order to ensure the further export of their intellectual potential border.

Given the low impact of X5 (the real wage index) on Y, it may be related to the conditions of domestic business. That is, the increase in the amount of labor costs may not be related to the increase in the quality of fulfilled functional duties, but be a consequence of the introduction at the state level of mandatory programs for the protection of the socially vulnerable population (the availability of tax social benefits, the constant increase in the cost of living minimum and minimum wages, etc.).
The conducted researches show that there is a negative tendency towards the deterioration of the level of educational and scientific training of future employees of enterprises, institutions and organizations of all forms of ownership. In order to make full use of the work potential, the management and managers of economic entities, especially enterprises engaged in the sale and after-sales service of vehicles, must be provided not only with diplomas of higher education, scientific degrees, etc., but also with qualitative knowledge in strategic management of enterprise and staff, including business organization and planning, risk management, and more.

This is necessary for the development and formation of a sound strategy for improving the competitiveness of the enterprise in general and the use and development of personnel at the enterprise as the most important component in particular.

3.2 Substantiation of the Method for Determining the Optimal Production Load

In recent years, in the context of a radically changed position in the labor market, the possibilities of attaining a professional career and understanding of it have changed. We agree with the author (Lozovetska V. T., 2015) that, before, career conditions were dictated by the internal labor market and assumed full long-term, guaranteed employment, regularity and predictability of promotion, dedication to the profession and organization, now conditions often determine the external market. It has become characteristic of temporary contracts, part-time employment, partial career changes, employment in several fields of activity and in several organizations, unpredictability of work transfers, self-management of a professional career.

Every company manager who wants to ensure efficient and cost-effective operation, not only in the short but also in the long term, must constantly implement measures related to maximizing profitability through continuous training of staff with and without separation from economic activity, and with the creation appropriate conditions and favorable workload for subordinate employees. Overtime, high intensity of work, working more than 12 hours per working day, 6 days a week, intensive distance learning, etc. - in the future will necessarily lead to increased staff turnover, even if a relatively high wage is set in the enterprise. The results of the studies (Makarenko S. M., Oliynyk N. M., Lushchyk K. I., 2017) indicate that satisfaction with even a substantial increase in wages lasts about 8 months on average. As a rule, in the specified period of time a person satisfies the previously formed needs for certain foodstuffs, services of a higher level of quality, and for her the main task is finding free time resources for personal and relaxation. Also, according to some researchers (Maisiura O. M., 2010) flexible working hours, mobility, creative character of work and comparative independence of workers with no attachment to the workplace, etc., become more important for people than the level of income they receive. However, for a dishonest employee whose earnings are tied to hourly wages, the provision of these opportunities will likely lead to the delayed fulfillment of the established functional duties and the decrease in productivity due to the fact that he does not organize his own activities without constant control by management able. It is also necessary to take into account the fact that constant work activity and the fulfillment of the set tasks will promote self-assertion in the personality of the validity of the chosen life and production line of activity, eliminating negative thoughts, and increasing the level of satisfaction and happiness from the chosen type of activity. At the same time, the negative consequences of the above may be the pursuit of results without determining the validity and feasibility of obtaining them, which will allow to complete the task in time, but their performance may not bring the person closer to achieving the main mission of life.

For the leaders of modern business structures, permanent development and implementation of a set of measures to improve the management of time resources in production is one of the main directions of increasing the profitability of economic activity by increasing labor productivity, more efficient use of existing production funds and minimizing fixed costs per unit of output. (works performed, services rendered). Also, optimization of time load and determination of its limit for employees of the enterprise while ensuring compliance with production standards per hour will not only reduce the level of injury (social effect), shortage and waste in production (economic effect), but also help more satisfaction with the work done, normalization of the psychological climate in the team, which, as a
consequence, can lead to an increase in the level of productivity and personal development. In order to determine the optimal production load, the performance and remuneration of employees involved in the maintenance and service stations were analyzed using the example of a leading enterprise for the sale and after-sales service of vehicles of Autoplaneta Plus LLC (Kherson, Kherson region, Ukraine), where there are significant fluctuations in both labor intensity and wages.

On the basis of data from December 2017 to April 2018, the marginal productivity of labor and the marginal cost of wages were determined on the example of the leading specialists of the station (Table 1).

The results of the study show that for a locksmith № 1 the monthly production load with simultaneous consideration of heavy work should not exceed 185.4 hours. The optimum load is about 165 hours per month, which also optimizes the cost of pay.

Considering the level of professionalism and the proportion of hard work in the daily work schedule for a locksmith № 2, the load should not exceed 305.2 hours work, the proportion of hard work - no more than 30% of the total amount of completed tasks. Maximization of labor productivity is achieved in the range from 174.1 to 228.2 hours, which indicates the minimum permissible level of the need for wages to meet physiological needs in the amount of 10 to 13 thousand UAH.

Table 1. Determination of Optimal Load for Station Workers

<table>
<thead>
<tr>
<th>Month</th>
<th>Total Labor Productivity, UAH</th>
<th>Hours Worked</th>
<th>Marginal Productivity</th>
<th>Wages Accrued, UAH</th>
<th>Marginal Cost of pay</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Locksmith № 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>December 2017</td>
<td>43885</td>
<td>188.6</td>
<td>-</td>
<td>10895</td>
<td>-</td>
</tr>
<tr>
<td>January 2018</td>
<td>21307</td>
<td>87.9</td>
<td>224.21</td>
<td>4895</td>
<td>59.5829</td>
</tr>
<tr>
<td>February 2018</td>
<td>38165</td>
<td>164.7</td>
<td>219.51</td>
<td>9366</td>
<td>58.2161</td>
</tr>
<tr>
<td>March 2018</td>
<td>42813</td>
<td>185.4</td>
<td>224.54</td>
<td>10765</td>
<td>67.5845</td>
</tr>
<tr>
<td>April 2018</td>
<td>45213</td>
<td>197.3</td>
<td>201.68</td>
<td>11245</td>
<td>40.3361</td>
</tr>
<tr>
<td><strong>Locksmith № 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>December 2017</td>
<td>49399</td>
<td>228.2</td>
<td>-</td>
<td>13153</td>
<td>-</td>
</tr>
<tr>
<td>January 2018</td>
<td>36329</td>
<td>174.1</td>
<td>241.59</td>
<td>9806</td>
<td>61.8669</td>
</tr>
<tr>
<td>February 2018</td>
<td>53597</td>
<td>372.3</td>
<td>87.12</td>
<td>21531</td>
<td>59.1574</td>
</tr>
<tr>
<td>March 2018</td>
<td>50443</td>
<td>320.4</td>
<td>60.77</td>
<td>18262</td>
<td>62.9865</td>
</tr>
<tr>
<td>April 2018</td>
<td>48510</td>
<td>305.2</td>
<td>127.17</td>
<td>17396.4</td>
<td>56.9474</td>
</tr>
<tr>
<td><strong>Electrician № 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>December 2017</td>
<td>11300</td>
<td>49.8</td>
<td>-</td>
<td>4196</td>
<td>-</td>
</tr>
<tr>
<td>January 2018</td>
<td>23372</td>
<td>103.0</td>
<td>226.92</td>
<td>5938</td>
<td>32.7444</td>
</tr>
<tr>
<td>February 2018</td>
<td>19220</td>
<td>84.7</td>
<td>226.89</td>
<td>5088</td>
<td>46.4481</td>
</tr>
<tr>
<td>March 2018</td>
<td>21540</td>
<td>112.0</td>
<td>84.98</td>
<td>6832</td>
<td>63.8828</td>
</tr>
<tr>
<td>April 2018</td>
<td>23240</td>
<td>125.1</td>
<td>129.77</td>
<td>7506</td>
<td>51.4504</td>
</tr>
<tr>
<td><strong>Disintegration № 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>December 2017</td>
<td>33629</td>
<td>148.2</td>
<td>-</td>
<td>11644</td>
<td>-</td>
</tr>
<tr>
<td>January 2018</td>
<td>18811</td>
<td>82.9</td>
<td>226.92</td>
<td>6254</td>
<td>82.5421</td>
</tr>
<tr>
<td>February 2018</td>
<td>23349</td>
<td>102.9</td>
<td>226.9</td>
<td>7719</td>
<td>73.25</td>
</tr>
<tr>
<td>March 2018</td>
<td>28454</td>
<td>125.4</td>
<td>226.89</td>
<td>9447</td>
<td>76.8</td>
</tr>
<tr>
<td>April 2018</td>
<td>31567</td>
<td>142.7</td>
<td>179.94</td>
<td>10705</td>
<td>72.7168</td>
</tr>
</tbody>
</table>

For electrician № 1, labor productivity maximization is achieved in the workload range of 84.7 to 103 hours per month, the minimum allowable level of remuneration from 5 to 6 thousand UAH. Exceeding monthly production load up to 125.1 hours can lead to lower productivity and, as a consequence, longer fulfillment of responsibilities. This can significantly worsen the customer's level of satisfaction with the services provided as a result of the longer execution of operations compared to similar works at competing companies.
For the worker № 1, performing the functions of collapse, the optimal monthly load for maximizing productivity is the interval from 82.9 to 125.4 hours. In the specified interval, the minimization of labor costs is achieved with a monthly load of 102.9 to 125.4 hours. When the load is increased to 142.7 hours, there is a significant decrease in labor productivity, which also indicates a longer fulfillment of duties and a decrease in the level of customer satisfaction.

The proposed approach can also be used for all employees of the vehicle maintenance and service station of Avtoplanet Plus LLC, which will allow to determine the optimum production load and create the necessary time reserve for the proper relaxation and reproduction of employees at this production site. This will help increase the level of productivity and satisfaction not only among the employees of the enterprise, but also among the customers of the station.

3.3 Development of Proposals for Improvement of the Personnel Management System

Among the main areas of improvement of the system of labor potential management of the station for maintenance and servicing of motor vehicles at LLC "AvtoPlanet Plus" is to bring the system of motivation to the level that provides the maximum self-motivation of employees to increase the efficiency of their activity, which, in turn, will lead to the improvement of the general indicators of economic activity of the enterprise. Taking into account that at the station there is a constant dissatisfaction among employees with the ratio of labor intensity and remuneration, the basis of the system of motivation should be based on the grading system - the scale of salaries (tariff grid) of the company, which is developed on the basis of expert estimates of positions for predetermined factors.

The following features must be at the heart of the grading system: the qualification required for the job; complexity of work performed; level of responsibility and independence; the need for guidance from other people; tensions and working conditions.

In developing the grading system, we propose to take the following steps: to create an appropriate working group consisting of management and representatives of all units of the station; determine the factors of job evaluation (determine the specific weight of factors); to develop a scale for the evaluation of positions by selected factors; to select basic (reference) positions for the first stage of evaluation; to estimate the basic positions, the level of fluctuation of the developed scales and the share of factors; to evaluate all positions of the company in relation to the already estimated basic ones; to divide the posts into levels (grade) agree and approve the final estimates; translate point scores into cash; implement developed grading systems.

Given that the greatest concern of the employees of the investigated enterprise is related to the possible subjectivism of the members of the expert group in the assessment of the results of their professional and personal development, the management of the enterprise should first of all put in place an effective objective model of estimation of the coefficients of the involved experts. Considering that each expert of the created working group has different level of education, experience and, as a consequence, occupies different positions, we suggest to calculate the competence coefficients of all members of the working group, using the following formula:

$$K = \frac{K_1 + K_2 + K_3 + \ldots + K_n}{n},$$  \hspace{1cm} (1)

\(K\) – expert competence factor; 

\(K_1\) – coefficient, which is assigned depending on the available level of education, scientific degree, academic rank; 

\(K_2\) – coefficient that is assigned depending on work experience (position); 

\(K_3\) – coefficient that is assigned depending on the scale of the managerial activity of the expert (number of subordinate employees); 

\(K_n\) – coefficient that is assigned depending on the n-factor; 

\(n\) – the number of factors by which the level of expertise is assessed.

The next step is to ensure that all qualitative components that characterize the level of expertise of experts are translated into quantitative indicators. Thus, in determining the quantitative indicator characterizing the existing level of education \((K_1)\), it is suggested to use the following scale of assessment: persons with the lowest degree of higher education "bachelor" - get 1 point. For all other individuals, their grade points will increase depending on the interval of study. That is: for persons
with higher education degree "specialist" - 2 points, "master" - 3 points, scientific degree "Candidate of Sciences (Doctor of Philosophy)" - 6 points, "Doctor of Sciences" - 8 points. For individuals with two or more undergraduate degrees, they are postgraduate or doctoral students - plus one additional point for each component.

The indicators characterizing the components of $K_2$ (work experience) and $K_3$ (scale of management activity) are reflected in quantitative indicators - respectively, in months of work in management positions and in the number of subordinate employees.

**Table 2. An Example of the Calculation of Expert Competence Coefficients**

<table>
<thead>
<tr>
<th>Expert</th>
<th>Education, points</th>
<th>K_1</th>
<th>Experience, month</th>
<th>K_2</th>
<th>Number of subordinate employees, persons</th>
<th>K_3</th>
<th>(\sum_{j=1}^{3}K_j)</th>
<th>K_k</th>
</tr>
</thead>
<tbody>
<tr>
<td>№ 1</td>
<td>4</td>
<td>0.8</td>
<td>137</td>
<td>0.59</td>
<td>8</td>
<td>0.94</td>
<td>0.78</td>
<td>1.29</td>
</tr>
<tr>
<td>№ 2</td>
<td>4</td>
<td>0.8</td>
<td>55</td>
<td>0.88</td>
<td>6</td>
<td>0.98</td>
<td>0.89</td>
<td>1.13</td>
</tr>
<tr>
<td>№ 3</td>
<td>6</td>
<td>0.4</td>
<td>142</td>
<td>0.57</td>
<td>35</td>
<td>0.4</td>
<td>0.46</td>
<td>2.19</td>
</tr>
<tr>
<td>№ 4</td>
<td>8</td>
<td>0</td>
<td>23</td>
<td>1.0</td>
<td>9</td>
<td>0.92</td>
<td>0.64</td>
<td>1.56</td>
</tr>
<tr>
<td>№ 5</td>
<td>4</td>
<td>0.8</td>
<td>128</td>
<td>0.62</td>
<td>11</td>
<td>0.88</td>
<td>0.77</td>
<td>1.3</td>
</tr>
<tr>
<td>№ 6</td>
<td>5</td>
<td>0.6</td>
<td>228</td>
<td>0.26</td>
<td>55</td>
<td>0</td>
<td>0.29</td>
<td>3.49</td>
</tr>
<tr>
<td>№ 7</td>
<td>4</td>
<td>0.8</td>
<td>300</td>
<td>0.0</td>
<td>10</td>
<td>0.9</td>
<td>0.57</td>
<td>1.76</td>
</tr>
<tr>
<td>№ 8</td>
<td>3</td>
<td>1</td>
<td>61</td>
<td>0.86</td>
<td>5</td>
<td>1</td>
<td>0.95</td>
<td>1.05</td>
</tr>
</tbody>
</table>

Together

\[\text{Max} = 8\]
\[\text{Max} = 300\]
\[\text{Max} = 55\]
\[\text{Min} = 3\]
\[\text{Min} = 23\]
\[\text{Min} = 5\]

\[\text{Together} = 13.77\]

In order to determine the reasoned expert competence coefficient for each component, it is proposed to take into account the corresponding levels of fluctuation of expert qualifications within the working group using the following formula:

$$K_j = \frac{X_{\text{max}} - X_{ij}}{X_{\text{max}} - X_{\text{min}}}.$$  \hspace{1cm} (2)

$K_j$ – a specific expert's rating on each of the indicators that characterize a particular competent component;

$X_{ij}$ – the value of the i-th indicator of the j-th expert;

$X_{\text{max}}$ – the maximum value of the i-th indicator;

$X_{\text{min}}$ – the minimum value of the i-th indicator.

The best rated is the lowest rated rating. The arithmetic value of the sum of ratings of a particular expert on all indicators that characterize his level of competence, we suggest to determine by the formula:

$$K_{cpj} = \frac{K_j}{n},$$  \hspace{1cm} (3)

$K_{cpj}$ – the arithmetic average of the ratings of a particular expert on all indicators that characterize his level of competence;

$n$ – the number of indicators used to calculate.

It is suggested to translate the results obtained into coefficients that will characterize the level of competence of each individual expert within the designated working group using the following formula:

$$K_{kj} = \frac{1}{K_{cpj}},$$  \hspace{1cm} (4)

$K_{kj}$ – the coefficient of competence of the j-th expert.

Using the collected operational information on the level of education, work experience and average number of direct subordinate employees, Table 2 shows an example of calculating the competence ratios of the experts of the proposed working group for rating the activity of station workers.
The example of calculations presented in Table 2 will allow to consider the individual level of practical and scientific training of each of the respondents in determining the coefficients of competence of the experts involved and reduce the level of error when using the intuitive group of research methods.

4. Conclusion and Recommendations

Determining the limit of production load will not only establish a sound system of bonuses, but also increase the level of job satisfaction among subordinate employees. This will help to reduce staff turnover, reduce the level of scarcity and waste in the manufacture of products, and the likelihood of injury at work, etc. The incentive model being developed should stipulate that, if the planned professional and personal development goals are met or exceeded, employees will be provided with adequate financial compensation in the after-hours.

A methodological approach to determining the coefficient of competence of experts involved in the evaluation of experts, taking into account their work experience, scale of management activity, level of education, is proposed for a reasonable and objective evaluation of the achieved results. This will maximize the effectiveness of the rating and coordinate the efforts and resources of employees to improve defined and relevant for the company.

References


THE INTERCONNECTION AMONG MONEY SUPPLY, INTEREST RATE AND STOCK EXCHANGE IN TURKEY

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Abstract

The fact that the monetary policies pursued by countries becomes operational on a narrowing or expanding basis has a significant impact on both the capital markets and the money markets of that country. In systems with a contractionary policy, an increase in interest rates is expected to occur due to the decrease in money supply, and in this case, it is expected the values of the firms traded in the capital markets and the bond markets bonds will decrease. If an expansionary monetary policy is followed, it is expected that the price formations (stock and bonds) in capital markets will increase due to the decrease in interest rate due to the increase in the level of money offered to the market. Money supply, interest rate and interest rate factor in the capital market relationship triangle play a role in reflecting the changes in money supply to the capital market as a mediating variable. In some cases, the increase or decrease in the interest rate in the market may require changes in the money supply level. In this study, including some in Turkey; short - and long - term relationships between money supply, interest rate and stock index are analyzed. Within the scope of the study, the data related to the variables covering the period between January 2006 - June 2019 are firstly seasonally adjusted and are tested whether they are stationary at the same level to examine their suitability for the econometric analysis. In the following period, the existence of long-term co-integration relationship is analyzed by Johansen co-integration test and the short-term causality relationship is analyzed by Granger causality test. As a result of the study, it is found that there is a long-term relationship among variables, bidirectional causality between money supply and interest rate and uni-directional causality from stock exchange index to money supply.

Keywords: Money Supply, Interest Rate, Stock Exchange, Turkey.

1. Introduction

In developed economies, it is revealed that the stock market index is an indicator of the changes in real markets. Moreover, it is considered as the determinant of the situation in economic conjuncture. Thus, determination of macroeconomic in addition to microeconomic factors causing fluctuations in stock markets has become an important problem in academic studies. Hashemzadeh and Taylor (1988) suggest that the increase in interest rates reduce the present value of the cash flows expected by the investor in the future, thus will lead to a decrease in the bond prices and the demand for bonds will increase. Moreover, the demand to stock prices will decrease as it will leads to a higher interest rate than the stock yield. In addition, Brigham (2012) explain the effect of interest rates on the profit of the company in 2 items. According to the first item, since interest expenses are considered as expense, the increase in interest rates will cause a decrease in the profits of the company and also affect the profits of the company because the interest rates affect the economic activity level and this has an indirect effect on the stock prices. Spirinkel (1964) and Palmer (1970) examine the relations between money supply and stock market. In these studies, a strong relationship is found between the changes in money supply and stock price changes. Wong et al. (2005) argue that changes in money supply is difficult to use in estimating the stock prices, and that the expansionary
monetary policy stimulates the economy, which will increase the demand for stocks, and that changes in money supply will affect prices and interest rates, as well. They state that the increase in money supply would cause inflation to fall, thus reduce the demand for stocks.

The relationship between stock market and macroeconomic variables are examined by academicians and policy makers widely by applying different econometric techniques. The macroeconomic variables that the researchers mostly concern involves interest rates, inflation, money supply and GDP.

Wongbangpo and Sharma (2002) study the relationship between stock prices and nominal GNP, M1 money supply, short term interest rates and foreign exchange in Indonesia, Malaysia, Philippines, Singapore and Thailand markets using monthly data for the period between 1985-1996 using cointegration and Granger causality tests. At the end of the study, they find a negative relationship between interest rates and the stock market in the Philippines, Singapore and Thailand, while a positive relationship in Indonesia and Malaysia; They also report a long-term relationship between high inflation, money supply and stock prices in the Indonesian and Philippine markets, while a positive impact of monetary expansion on stock prices in Malaysia, Singapore and Thailand are reported. Wong et al. (2005), using the quarterly data of 1982: Q1-2002: Q3, study the relationship between short-term interest rates money supply (M1 and M2) and short-term interest rates by applying VAR model for Singapore and USA. At the end of the study, they report that M1 money supply and short-term interest rate have the same effect on the Singapore stock exchange. Patra and Poshakwale (2006) investigate the relationship between stock prices, consumer price index, money supply and exchange rate traded in the Greek Stock Exchange using monthly data from 1990 to 1999 by applying cointegration and Granger causality tests. At the end of the study, they find that there is a balance between inflation rate, money supply and stock prices. Gan, Lee, Yong and Zhang (2006) examine the relationship between the New Zealand Stock Exchange and some macroeconomic variables by applying Johansen cointegration tests by using monthly data of 1990-2003 period. At the end of the study, they report that there is a long-term cointegration relationship between GDP, inflation, short term and long term interest rates, real exchange rate, money supply (M1), domestic oil prices and New Zealand stock index (NZSE40). Moreover, they report that the stock market index is determined by GDP, short-long term interest rates and M1 money supply. Humpe and Macmillan (2007) examine the relationship between consumer price index, money supply and long-term interest rates in USA and Japan by applying cointegration test. The data they use are monthly covering the period from 1965: 01 - 2005: 06. At the end of the study, they find that the relationship between money supply and stock prices is positive but not statistically significant for the USA. On the other hand, for Japan, the relationship between stock prices and money supply is negative. Liu and Shrestha (2008) examine the relationship between Chinese stock market indices and money supply, industrial production, inflation, exchange rate and interest rates by applying cointegration test by using monthly data for 1992: 01 - 2001: 12 period. At the end of the study, they report that there is no relationship between macroeconomic variables and stock prices on the Chinese Stock Exchange. Hosseini et al. (2011) investigate the relationship between crude oil prices, M2 money supply, industrial production, interest rates and stock prices by using VECM model in Chinese and Indian stock exchanges using monthly data for 1999: 01 - 2009: 01 period. Their findings show that there is a short- and long-term relationship between macroeconomic variables and stock exchanges in each of the country.

There are similar studies which are performed on Turkey. Forex: Ozcan (2012) examines the relationship between BIST industry index and selected macroeconomic variables by applying cointegration test for the period 2003-2010. At the end of the study, he finds that there is a long-term relationship between macroeconomic variables and BIST index. Kaya et al. (2013) investigate the relationship between BIST 100 index and interest rate, money supply, industrial production index and exchange rate by applying multiple linear regression model using the monthly data for the 2002: 01 - 2012: 06 period. At the end of the study, they report positive relationship between M2 money supply and stock returns, while there is a negative relationship with dollar exchange rate, and interest rates and industrial production index is found to have no effect on stock returns. Alper and Kara (2017) examine the effect of exchange rate, interest rate, inflation rate, gold prices, money supply, oil prices, foreign trade balance and industrial production index on Borsa Istanbul stock returns for the period between 2003: 01-2017: 02 using monthly data. As a model, they have used impulse-response analysis.
and variance decomposition. At the end of the study, they report that the effect of inflation rate, money supply and real oil prices on real stock returns are not statistically significant.

The aim of this study is to reveal the relationship between interest rate, money supply and BIST100 index returns for Borsa Istanbul. For this purpose, the relationship between these macroeconomic factors and BIST100 index has been examined by applying cointegration and Granger causality tests for the period 2006: 01-2019: 06.

2. Research Methodology and Findings

The study covers the period for 2006: 01-2019: 06. The frequency of the data is monthly. The data of money supply (M1), interest rates and BIST 100 index are obtained from the Central Bank of the Republic of Turkey. The data of BIST 100 index is the closing price.

In econometrics, time series have stationary and non-stationary processes. In order to make time series analysis, the series included in the model should be stationary. Therefore, in order to stabilize the series, the differences or logarithms of the series are taken so that it is possible to obtain accurate and reliable results (Gujarati and Porter: 2009).

One of the most preferred method to investigate the stationarity of the series is the Augmented Dickey-Fuller (Dickey and Fuller, 1979) test. This test assumes that the error terms are statistically independent and have constant variance. For this reason, as an alternative to ADF test, Phillips and Perron (1988) test is also used that considers the correlation and time varying variance in the error term. However, according to the results of the unit root test, it is also important at what order the time series are integrated. If the series are integrated at the same order, then cointegration tests can be performed as a next stage. In the studies, the test developed by Johansen (1988) is generally used. As a third stage, the existence of a cointegration relationship between the series are examined by implementing the test developed by Engle and Granger (1987) where the direction of the relationship is tested.

Table 1. Unit Root Test Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF – I(0)</th>
<th>PP – I(0)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constant</td>
<td>Constantand Trend</td>
</tr>
<tr>
<td>Money Supply</td>
<td>0.844</td>
<td>-3.251* (0.078)</td>
</tr>
<tr>
<td></td>
<td>(0.994)</td>
<td>(0.995)</td>
</tr>
<tr>
<td>Interest Rate</td>
<td>-1.623</td>
<td>-0.021 (0.995)</td>
</tr>
<tr>
<td></td>
<td>(0.468)</td>
<td>(0.995)</td>
</tr>
<tr>
<td>BIST 100 Index</td>
<td>-1.241</td>
<td>-2.884 (0.170)</td>
</tr>
<tr>
<td></td>
<td>(0.655)</td>
<td>(0.639)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF – I(1)</th>
<th>PP – I(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constant</td>
<td>Constantand Trend</td>
</tr>
<tr>
<td>Money Supply</td>
<td>-16.453*** (0.000)</td>
<td>-16.502*** (0.000)</td>
</tr>
<tr>
<td>Interest Rate</td>
<td>-4.846*** (0.0001)</td>
<td>-10.605*** (0.000)</td>
</tr>
<tr>
<td>BIST 100 Index</td>
<td>-12.792*** (0.000)</td>
<td>-12.753*** (0.000)</td>
</tr>
</tbody>
</table>

Notes: Mac Kinnon (1996) one-sided p values.*** and * represent 1% and 10% significance level respectively.

When the unit root test results are examined, it is found that all three series are statistically significant and stationary both for ADF and PP tests.
The Interconnection among Money...

Table 2. Johansen Cointegration Test Results

<table>
<thead>
<tr>
<th>Hypothesis (H0)</th>
<th>Eigenvalue</th>
<th>Trace Statistics</th>
<th>CV 5%</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>0.451</td>
<td>193.341***</td>
<td>29.797</td>
<td>0.0001</td>
</tr>
<tr>
<td>At most 1</td>
<td>0.322</td>
<td>97.846***</td>
<td>15.494</td>
<td>0.0001</td>
</tr>
<tr>
<td>At most 2</td>
<td>0.201</td>
<td>35.835***</td>
<td>3.841</td>
<td>0.000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hypothesis (H0)</th>
<th>Eigenvalue</th>
<th>Max-Eigen Statistics</th>
<th>CV 5%</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>0.451</td>
<td>95.494***</td>
<td>21.131</td>
<td>0.000</td>
</tr>
<tr>
<td>At most 1</td>
<td>0.322</td>
<td>62.011***</td>
<td>14.264</td>
<td>0.000</td>
</tr>
<tr>
<td>At most 2</td>
<td>0.201</td>
<td>35.835***</td>
<td>3.841</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Notes: Mac Kinnon-Haug-Michellis (1999) p-values, *** represents 1% significance level.

According to the results of cointegration test given in Table 2, it is concluded that there are at least two co-integration vectors among the variables according to both Trace and Max-Eigen statistics. Therefore, it is concluded that there is a long-term relationship between the variables.

Table 3. VEC Granger Causality/Block Exogeneity Wald Tests Results

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable: Money Supply</th>
<th>Chi-sq</th>
<th>df</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIST100 Index</td>
<td></td>
<td>8.405***</td>
<td>1</td>
<td>0.0037</td>
</tr>
<tr>
<td>Interest Rate</td>
<td></td>
<td>33.230***</td>
<td>1</td>
<td>0.000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable: BIST100 Index</th>
<th>Chi-sq</th>
<th>df</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money Supply</td>
<td></td>
<td>2.100</td>
<td>1</td>
<td>0.147</td>
</tr>
<tr>
<td>Interest Rate</td>
<td></td>
<td>0.756</td>
<td>1</td>
<td>0.384</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable: Interest Rate</th>
<th>Chi-sq</th>
<th>df</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money Supply</td>
<td></td>
<td>6.766***</td>
<td>1</td>
<td>0.0093</td>
</tr>
<tr>
<td>BIST100 Index</td>
<td></td>
<td>0.483</td>
<td>1</td>
<td>0.486</td>
</tr>
</tbody>
</table>

Notes: *** represents 1% significance level.

The results of Granger causality tests are presented in Table 3. When the table is examined, it is observed that there is a bi-directional causality relationship between interest rate and money, while there is uni-directional causality from stock exchange index to money supply.

3. Conclusion

It is revealed that the stock market index in developed economies is an indicator of the changes in real markets and the determinant of the situation in economic conjuncture. Therefore, determination of macro and micro factors that cause fluctuations in stock markets has become an important problem of academic and political studies. In this study, macroeconomic factors affecting BIST100 index and their relationship with each other are investigated for the case of Turkey. As macroeconomic factors, money supply and interest rates are used.

In this study, the period that is studied is between 2006: 01-2019: 06. The frequency of the data are monthly and the money supply (M1), interest rates and BIST100 stock closing price series are obtained from the Central Bank of the Republic of Turkey.

As a result of the study, long-term relationships between variables are reported. Bi-directional causality relationship between interest rate and money and uni-directional causality from stock exchange index to money supply are reported.
References


INVESTIGATION OF THE RELATIONSHIP BETWEEN BITCOIN AND EXCHANGE RATES

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Abstract

As a result of the development of technology and increasing innovations and the disappearance of the boundaries in trade today, the concept of virtual money has begun to appear more and more. Since it is the first virtual currency traded, Bitcoin is considered the most recognized and used virtual currency. Bitcoin is used in various countries for trading and investment purposes and is becoming more and more demanding virtual currency. The most important reason why Bitcoin is so much demanded by people is that Bitcoin will increase over time and have a positive impact on their purchasing power. In particular, the commissions and expenses that banks receive in money transfers or purchases make Bitcoin the hottest investment and trading tool in the world.

Bitcoin is a software that was created by Satoshi Nakamoto in 2009 and started to increase in price since 2010, where users can directly process via block chain without the need for an intermediary and is the first decentralized crypto currency. Bitcoin, which is not indexed to any precious metals, is also not represented by a legal currency such as Dollar and Euro.

The main purpose of this study is to determine the relationship between Bitcoin and exchange rates, especially the Dollar, which has been used as an investment purpose between 2010-2018 periods and to reveal the effect of Bitcoin on foreign exchange markets. In the study; Granger Causality analysis was used for the effect of Bitcoin currency on other currencies and ARDL Boundary Test approach for short and long term relationships.

As a result of the study; There is a positive relationship between bitcoin and dollar exchange rate in both long and short term.

Keywords: ARDL, Granger Causality Analysis, Bitcoin, Dollar.

BİTCOİN İLE DÖVİZ KURLARI ARASINDAKİ İLİŞKİNİN İNCELENMESİ

Özet

Teknolojinin gelişmesi sonucunda artan inovasyonlar ve ticarette sınırların ortadan kalkması ile birlikte günümüzde sanal para kavramı daha çok karşımıza çıkmaya başlamıştır. İlk işlem gören sanal para olmasının sebebiyle Bitcoin en çok tanınan ve kullanılan sanal para olarak kabul edilmektedir. Bitcoin çeşitli ülkelerde işlem amaçlı ve yatırım amaçlı olarak kullanılmakta ve her geçen gün daha çok talep edilen bir sanal para birimi haline gelmektedir. Bitcoin'in insanlar tarafından bu kadar fazla talep edilmesinin en önemli nedeni, Bitcoin’in zaman içerisinde artarak satım alma güçlerini oluşturmaktadır. Özellikle bankaların para transferlerinde veya alışverişlerde aldıkları komisyonlar ve masraflar Bitcoin'in dünyadaki en sıcak yatırım ve ticaret aracı olmasını kolaylaştırmaktadır.


Bu çalışmanın temel amacı 2010-2018 dönemleri arasında artık yatırım amacı olarak da kullanılanma başlayıp Bitcoin ile döviz kurları özellikle de Dolar arasındaki ilişkisini tespit edebilmek ve Bitcoin’in döviz piyasalarına etkisini ortaya koyabilmektir. Çalışmada yöntem olarak; Bitcoin para biriminin diğer kurlar üzerinde etkisi için Granger Nedensellik analizi, kısa ve uzun dönem ilişkiler için de ARDL Smr Testi yaklaşımu ile kullanılmıştır.
Çalışmanın sonucunda; Bitcoin ile dolar kuru arasında hem uzun hem de kısa dönemde pozitif yönlü bir ilişkinin olduğu diğer bir ifade ile her iki değişkenin de uzun dönemde birliktə hareket ettiği ve söz konusu iki değişken arasında çift yönlü nedensellik ilişkisi tespit edilmiştir.

Anahtar Kelimeler: ARDL, Granger Nedensellik Analizi, Bitcoin, Dolar.

1. Giriş

Teknolojinin gelişmesi sonucunda artan inovasyonlar ve ticarette sınırların ortadan kalkması ile birlikte günümüzde sanal para kavramı daha çok karşımıza çıkmaya başlamıştır. İlk işlem gören sanal para olması sebebiyle Bitcoin en çok tanınan ve kullanılan sanal para olarak kabul edilmektedir. Bitcoin çeşitli ülkelerde işlem amaçlı ve yatırım amaçlı olarak kullanılmakta ve her geçen gün daha çok talep edilen bir sanal para birimi haline gelmektedir. Bitcoin’in insanlar tarafından bu kadar fazla talep edildiği ve söz konusu iki değişken arasında çift yönlü nedensellik ilişkisi tespit edilmiştir.

2. Literatür

Li ve Wang (2017, s.49), çalışmalarda ARDL modelini kullanmışlar, MtGox’un kapanmasından önceki ve sonraki dönemi ayrı ayrı incelemişlerdir. Çalışmada elde edilen sonuçlara göre kısa dönemde Bitcoin kuru ekonomik temellere ve piyasa koşullarına uyum sağlamaktadır. MtGox kapandıktan sonra Bitcoin kuru uzun dönemde ekonomik temellere daha duyarlı ve teknolojik faktörlerle daha az duyarlı hale gelmiştir.


Carrick (2016, s.2328), Bitcoin’in Çin Yüanı hariç diğer para birimlerine istatistikleri olarak negatif ilişkili olduğunu ortaya koymıştır. Bir başka çalışma, dolasmındaki Bitcoin miktarının artmasının Amerikan Dolarının değerini düşürdüğü ortaya koymuştur. Buna göre dolaşımdaki bitcoinin sayısı 1 milyon adet daha fazla olduğunda, Euro/USD kuru %6,1 daha fazla artmaktadır (Khvan, 2016, s.11).

Dyhrberg ise (2015, s.6), Bitcoin’in değerini Pound/Dolar paritesine karşı, Euro/Dolar paritesine göre daha duyarlı olduğunu da ortaya koymuştur.


Cheung, Roca ve Su (2015) tarafından yapılan çalışmada ise sağlam (robust) ekonometrik tekniklerle Bitcoin pazarındaki balonların (bubbles) varlığı incelenmiştir. Çalışmada, 2010-2014
yılları arasında kısa ömürlü balonlar tespit edilmiş ve daha da önemlisi 2011-2013 yılları arasında 66 gün ile 106 güne kadar süren üç büyük balon (bubbles) tespit edilmiş ve bunun da Mt Gox borsasının çöküşünü getirebileceği ifade edilmiştir.


3. Veri Yöntem Analiz

Durağanlık kavramı, bir serinin ortalaması, varyansı ve otokovaryansının farklı zaman dilimlerinde değişmemesini ifade eder. Seriler arasında sahte ilişkilere yer vermemek ve bir sokun etkisinin kalıcı olmasına engel olmak için serinin durağan olması önemlidir.


<table>
<thead>
<tr>
<th>Tablo 1. Bitcoin Serisinin ADF Birim Kök Testi Sonuçları</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ADF Test İstatistiği</strong></td>
</tr>
<tr>
<td>Normal Form</td>
</tr>
<tr>
<td>-0.882127</td>
</tr>
<tr>
<td>Birinci Farklar Cinsinden</td>
</tr>
<tr>
<td>-6.735586</td>
</tr>
<tr>
<td>Prob. %1 -2.628961</td>
</tr>
<tr>
<td>%5 -1.950117</td>
</tr>
<tr>
<td>%10 -1.611339</td>
</tr>
<tr>
<td>%1 0.3272</td>
</tr>
<tr>
<td>%5 0.0000</td>
</tr>
<tr>
<td>%10 -0.05</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tablo 2. Döviz Kuru Serisinin ADF Birim Kök Testi Sonuçları</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ADF Test İstatistiği</strong></td>
</tr>
<tr>
<td>Normal Form</td>
</tr>
<tr>
<td>3.857035</td>
</tr>
<tr>
<td>Birinci Farklar Cinsinden</td>
</tr>
<tr>
<td>-3.333592</td>
</tr>
<tr>
<td>%1 -2.628961</td>
</tr>
<tr>
<td>%5 -1.950117</td>
</tr>
<tr>
<td>%10 -1.611339</td>
</tr>
<tr>
<td>%1 0.9999</td>
</tr>
<tr>
<td>%5 0.0015</td>
</tr>
<tr>
<td>%10 0.05</td>
</tr>
</tbody>
</table>

Tablolarda gösterilen ADF test istatistiği incelendiğinde %1, %5 ve %10 anlamlılık düzeylerinde Mac Kinnon kritik değerlerinden mutlak olarak küçük ve prob. değerleri de kritik değerlerden büyük olduğu için H0 hipotezi reddedilmez ve serilerin durağan olmasının bağlantı engel olunmuş, birinci dereceden farklı alınan serilerin test sonuçları değerlendirildiğinde test istatistiği değeri %1, %5 ve %10 anlamlılık düzeylerinde Mac Kinnon kritik değerlerinden mutlak olarak büyük ve prob değerleri de 0.05 kritik değerinden küçük olduğu için H0 hipotezleri reddedilir ve seride birim kök sorunu bulunmaktadır ve serilerin durağan olduğu kabul edilir. Sonuç olarak serilerin durağan olmaması nedeniyle 1.dereceden farklı alınarak durağan hale getirilmiştir.

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4. Sonuç

Serilerin durağanlık analizinin ardından, değişkenler arasındaki ilişki için en uygun gecikme uzunluğunun belirlenmesi gerekmektedir. Çalışmada en uygun gecikme uzunluğunun belirlenmesinde Akaike Bilgi Kriteri (AIC) kullanılmış ve gecikme uzunluğu 2 olarak belirlenmiştir. Gecikme uzunluğunun belirlenmesinin ardından ARDL sınır testi yapılmıştır.

4.1 ARDL Sınır Testi


Modelde kullanılacak değişkenlerin seviyede durağan ya da birincileri farkta durağan olup olmamasına bağlı olarak sınır testini uygulamanın mümkün olduğu. Bu sebeple sınır testini uygulamadan önce değişkenlerin durağanlık merteberlerini belirlemeye gerek yoktur. İkinci farklı durağan değişkenlerde ARDL modellinin uygulanmaması için değişkenlerin ikinci farkta durağan olma ihtimaline karşı sınanması gerekmektedir.

ARDL yaklaşımda kısıtsız hata düzeltme modeli kullanıldığından, Engle Granger testine göre daha iyi istatistiksel özelliklere sahiptir ve küçük örneklerde Johansen ve Engle-Granger testlerine göre daha güvenilir sonuçlar verir.

Tablo 3. ARDL Sınır Testi Sonuçları

<table>
<thead>
<tr>
<th>Test Statistic</th>
<th>Value</th>
<th>k</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>5.738593</td>
<td>5</td>
</tr>
</tbody>
</table>

Critical Value Bounds

<table>
<thead>
<tr>
<th>Significance</th>
<th>I0 Bound</th>
<th>I1 Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>% 10</td>
<td>3.02</td>
<td>3.51</td>
</tr>
<tr>
<td>% 5</td>
<td>3.62</td>
<td>4.16</td>
</tr>
<tr>
<td>% 2.5</td>
<td>4.18</td>
<td>4.79</td>
</tr>
<tr>
<td>% 1</td>
<td>4.94</td>
<td>5.58</td>
</tr>
</tbody>
</table>

Buna göre F-istatistik değeri üst sınır değerlerinden daha büyük olduğundan % 1 anlamlılık düzeyinde değişkenler arasında uzun dönemli ilişki vardır (uzun dönem ilişkinin olmadığını ileri sürsen hipotez reddedilmektedir).

Hata düzeltme terimi katsayısı (-0.956932) olması gerektiği gibi negatif ve istatistik olarak anlamlı olması uzun dönemli ilişkiye doğru bulunmaktadır.

Değişkenler arasındaki uzun dönem dengesinden kısa süreli sapmaların her çeyrekte %95,69 uzun dönemli dengeye doğru düzeldiğini göstermektedir.

Tablo 4. Katsayı Sonuçları

<table>
<thead>
<tr>
<th>Değişkenler</th>
<th>Katsaylar</th>
<th>Std. Hata</th>
<th>t-istatistik</th>
<th>Prob. Değeri</th>
</tr>
</thead>
<tbody>
<tr>
<td>D(TK)</td>
<td>3295.486797</td>
<td>578.000110</td>
<td>5.701533</td>
<td>0.0000</td>
</tr>
<tr>
<td>CointEq(-1)</td>
<td>-0.956932</td>
<td>0.231252</td>
<td>-4.138059</td>
<td>0.0003</td>
</tr>
</tbody>
</table>

Kaynaklar


ANALYSIS OF RELATIONSHIP BETWEEN THE INDICATORS OF MONEY SUPPLY AND INFLATION: THE CASE OF TURKEY

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Hasan Kalyoncu University, Turkey, Email: yildiz.ozkok@hku.edu.tr

Abstract

Today, the most important objective of the Central Bank is to maintain the price stability. Accordingly, the Central Banks intervene in the money market by using the monetary policy tools which they have. There is close relationship between the money supply and the balance sheets of central banks. The analytical balance sheet that is derived from the CB’s balance sheet in order to make it more understandable and simple enables monitoring of certain monetary aggregates easily. When we look at the analytical balance sheet of the Central Bank, we see that the reserve money is one of the most important indicators of the monetary policy of the central bank. In other words, a change in reserve money is a significant source that can be traced about money supply and thus monetary policy. In this context, an increase in reserve money is interpreted as an expansionary monetary policy, whereas a decrease is interpreted as a contractionary monetary policy, economically. On the other hand, open market operations are the fastest monetary policy instrument used by the Central Bank so as to increase and decrease liquidity in the market. The Central Bank tries to control the money supply by using the monetary base which is the sum of reserve money and open market operations. In this study, first of all, why the reserve money is important for the economy, the items of the reserve money and the content and importance of the monetary base will be emphasized. Then, change in reserve money, open market operations and monetary base from 2000 to the present will be analyzed by examining the Republic of Turkey Central Bank’s analytical balance sheet. Accordingly, the relationship between the inflation and, the reserve Money and the monetary base which are the most important indicators of money supply for the Central Bank will be analyzed after the year 2000. As a result, the monetary policies had been applied during the economic crisis in 2001 and the global economic crisis in 2008 will be analyzed.

Keywords: Money Supply, Reserve Money, Open Market Operations, Monetary Base, Inflation.

Anahtar Kelimeler: Para Arzı, Rezerv Para, Açık Piyasa İşlemleri, Parasal Taban, Enflasyon.

1. Giriş


2. Merkez Bankası Analitik Bilançosu

Tablo 1. TCMB Analitik Bilançosu (Ekim 2019)

<table>
<thead>
<tr>
<th>Miktar (milyon TL)</th>
<th>Bilanço İçindeki Payı (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AKTİF</strong></td>
<td></td>
</tr>
<tr>
<td>AKTİF</td>
<td>632.753</td>
</tr>
<tr>
<td>DİŞ VARLIKLAR</td>
<td>623.573</td>
</tr>
<tr>
<td>İÇ VARLIKLAR</td>
<td>73.938</td>
</tr>
<tr>
<td><strong>PASİF</strong></td>
<td>632.753</td>
</tr>
<tr>
<td><strong>TOPLAM DÖVİZ YÜKÜMLÜLÜKLERİ</strong></td>
<td>434.330</td>
</tr>
<tr>
<td>Dış Yükümlülükler</td>
<td>24.377</td>
</tr>
<tr>
<td>İç Yükümlülükler</td>
<td>409.953</td>
</tr>
<tr>
<td>Kamu ve Diğer Döviz Mevduatı</td>
<td>24.615</td>
</tr>
<tr>
<td>Bankalar Döviz Mevduatı</td>
<td>385.338</td>
</tr>
<tr>
<td><strong>MERKEZ BANKASI PARASI</strong></td>
<td>198.423</td>
</tr>
<tr>
<td>Rezerv Para</td>
<td>189.962</td>
</tr>
<tr>
<td>Emisyon</td>
<td>151.611</td>
</tr>
<tr>
<td>Bankalar Mevduatı</td>
<td>38.037</td>
</tr>
<tr>
<td>Fon hesapları</td>
<td>184</td>
</tr>
<tr>
<td>Banka Dışı Kesim Mevduatı</td>
<td>129</td>
</tr>
<tr>
<td>Diğer Merkez Bankası Parası</td>
<td>8.462</td>
</tr>
<tr>
<td>Açık Piyasa İşlemleri</td>
<td>-12.215</td>
</tr>
<tr>
<td>Kamu Mevduatı</td>
<td>20.677</td>
</tr>
</tbody>
</table>

Kaynak: TCMB.


3. Para Arzı Göstergeleri: Rezerv Para, Parasal Taban ve Açık Piyasa İşlemler

Bu bölümde para arzındaki değişim ve izlenen para politikası parasal taban, rezerv para ve açık piyasa işlemleri aracılığı ile analiz edilmeye çalışacaktır.

Rezerv Para; emisyon, TCBM’nin bankacılık kesimine olan TL yükümlülüği, fon hesapları ve banka dışı kesimin mevduatından oluşmaktadır (TCMB, 2016: 43). Merkez Bankası’nın her hafta yayınladığı analitik bilançoya göre Rezerv Para aşağıdaki gibi yazılabilir:

\[
\text{Rezerv Para} = \text{Emisyon} + \text{Bankalar Zorunlu Karşılıklar Bloke Hesabı} + \text{Serbest Mevduat} + \text{Fon Hesapları} + \text{Banka Dışı Kesimin Mevduatı}
\]

Grafik 1. Rezerv Para (milyon TL) ve Bilanço Büyüklüğü içindeki Payı (%)

Rezerv Para = Emisyon + Bankalar Zorunlu Karşılıklar Bloke Hesabı + Serbest Mevduat + Fon Hesapları + Banka Dışı Kesimin Mevduatı

Emisyon: Emisyon hacmi, Merkez Bankası tarafından tedavüle çıkarılan ve tedavülden çekiltilen banknotlar arasındaki farkı göstermektedir.

Bankalar Zorunlu Karşılıklar: Bankaların mevduatlarını karşılığında Merkez Bankası'nda tuttukları münzam karşılıklardır.

Bankalar Serbest İmkânları: Bankaların Merkez Bankası'nda TL cinsinden tuttukları nakit disponibilite'dir.

Fon Hesapları: Tasarruf Mevduatı Sigorta Fonu ile diğer fonların Merkez Bankası'ndaki mevduat bakiyelerini toplamlıdır.

Banka Dışı Kesimin Mevduatı: Elçilikler ve mensuplarının, belediyelerin, özel idarelerin ve bazı uluslararası kuruluşların Merkez Bankası'ndaki mevduat bakiyelerini toplamlıdır.


Grafik 2. Rezerve Para ve Önemli Bileşenleri (milyon TL)


Parasal taban büyüklüğü bir analitik bilanço kalemi değildir, ancak analitik bilanço kalemlerinden türetilmektedir. Parasal Taban büyüklüğüne, Rezerv Para ile TCMB’nin API nedeniyle piyasaya olan nakit yükümlülüklerinin (ya da nakit alacakların) toplanmasıyla ulaştırılır. Analitik bilançonun pasif kısmında yer almış nedeniyle, Açık Piyasa İşlemlerinin artı işareti olması, TCMB’nin piyasadan net likidite çektiğini, ekşi işareti olması ise piyasaya net likidite verdiğini göstermektedir. Bu doğrultuda
TCMB’nin piyasaya net likidite vermesi durumunda Parasal Taban, Rezerv Paradan düşük olmaktadır (TCMB, 2016: 45).

\[
\text{Parasal Taban} = \text{Rezerv Para + Açık Piyasa İşlemleri}
\]

MBP = Parasal Taban + Kamu Mevduatı


\[
\text{Parasal Taban} \times \text{Para Çarpanı} = \text{Para Arzı}
\]

Grafik 4.’de görüldüğü gibi parasal taban ve rezerv paradaki artış gözlenecektir. Merkez Bankası 2001 krizi sırasında ve 2008 küresel ekonomik kriz sonrasında API ile piyasaya likidite sağlamamıştır. Daha önce belirtildiği üzere 2010-2011 yıllarında makroekonomik ve finansal riskleri düşürücü para politikası kapsamında TCMB açık piyasa işlemleri ile önce piyasaya yüksek oranda likidite sağlamış, daha sonrasında ise bu miktar giderek azalmıştır. 2014 yılında sonra tekrar artan API ile piyasaya likidite sağlanmış, ancak son zamanlarda bu oran oldukça düşmüştür. 2019 yılında TCMB’nin...
sıkılaştırıcı para politikası uygulamaları grafiklerdeki para arzı göstergelerinin seyrinden de izlenebilmektedir.

4. 2000 Yılı Sonrasında Türkiye’de İzlenen Para Politikaları ve Enflasyon


![Grafik 5. Para Arzı Göstergeleri (milyon TL) ile Enflasyon (%) Arasındaki İlişki](image-url)


5. Sonuç ve Öneriler

THE RELATIONSHIP OF TOURISM REVENUE AND ECONOMIC GROWTH: ARDL BOUND TEST APPROACH

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Abstract

The tourism sector, which has been constantly developing in recent years, has made significant contributions to the economies of the countries. Especially developed and developing countries are trying to improve their economic growth by concentrating on the tourism sector. Studies related to the relationship between economic growth and tourism sector has shown that tourism revenues have a positive impact on economic growth. In this study, causality analysis between tourism revenues and economic growth was applied. GDP data refers to economic growth were obtained from the Turkish Statistical Institute website and tourism revenues from the Ministry of Culture and Tourism. Tourism revenue and GDP data between 2010 and 2018 was used for analyse. Result of the ARDL test has shown that tourism revenues are causal of the economic growth.

Keywords: Economic Growth, Tourism Revenue, Causality, ARDL

TÜRKİYE’NİN EKONOMİK BÜYÜMESİ İLE TURİZM GELİRLERİ ARASINDAKİ İLİŞKİ: ARDL SINIR TESTİ YAKLAŞIMI

Özet


Anahtar Kelimeler: Ekonomik Büyüme, Turizm Geliri, Nedensellik, ARDL

1. Giriş

Gelişimin hızladığı günümüz dünyasında turizm sektörü de hızla gelişim gösteren alanlardan birisi olmuştur. Turizm sosyal, kültürel ve ekonomik anlamda ülkelerle katkı sağlayan bir sektör olarak görülmektedir. Özellikle ekonominin kazanımları göz önünde bulundurulduğunda Türkiye gibi turizm potansiyeline sahip gelişmekte olan ülkeler turizm gelirlerini artırarak ekonomik büyümenin katkı sağlayacağı düşünülmektedir.

Turizm sektörü kısaca insanların bulundukları yerden başka bir yere gezme, görme, iş vb. amaçlarla seyahat etmeleri ve bulundukları yerde giri dönmeleri esnasında ihtiyaç duydukları bütün ürün ve hizmetleri karşılamanın işletme ve kurumları ifade eden geniş bir tanımı sahiptir. Dolayısıyla birçok farklı işletme türünün ve birçok farklı sektörün dolaylı ve doğrudan etkilediği düşünülebilir. Bu etki neticesinde ise ülkenin ekonomik büyümesinde önemli bir rol üstlenmesi söylenebilir.

Turizm ve ekonominin büyümese konusunu le alan birçok çalışma bulunmaktadır (Kasman ve Kasman, 2004; Yıldırım ve Öcal, 2004; Gündüz ve Hatemi, 2005; Ongan ve Demiröz, 2005; Bahar, 2006).

2. Literatür

Dritsakis 2004 yılında yapmış olduğu çalışmadan turizmin ekonomik büyümeye etkisini VAR yöntemiyle analiz etmiş ve turizm gelirleri ile büyüme arasında nedensellik ilişkisini tespit etmiştir. Dahasi reel döviz kuru ile turizm gelirleri arasında da ilişki bulunduğu bulunmuştur.


21 Latin Amerika devletinde gerçekleştirilen bir çalışmada panel veri kullanılarak turizm gelirleri ve büyüme arasındaki ilişki incelenmiştir. Özellikle düşük ve orta gelirli ülkelerin ekonomik büyumesinde turizmin önemli bir yeri olduğu tespit edilmiştir (Martin vd., 2004).

Kore üzerine yapılan bir çalışmada Engle, Granger ve VAR yaklaşımı kullanılarak turizm gelirleri ve ekonomik büyüme arasındaki ilişki incelenmiştir (Oh, 2005). Analizler sonucunda beklenenin aksine ekonomik büyüme turizm gelirlerinin nedeni olarak tespit edilmiştir. Kore'nin ekonomik büyumesi üzerinde turizm gelirlerinin bir etkisi bulunamamıştır.


3. Veri Yöntem Analiz

Çalışmada kullanılan veriler Tablo 1’de aktarılmıştır. Turizm gelirleri dolar kuru üzerinden hesaplandığı için dolar kuru ile birlikte verilmiştir. Yıllara ilişkin dolar kuru o yıl içerisinde kur seyrinin aritmetik ortalaması alınarak hesaplanmıştır. Turizm gelirleri dolar kuru ile çarpılarak TL cinsine çevrilmiştir.
Tablo 1. Yıllara Göre GSMH ve Turizm Gelirleri

<table>
<thead>
<tr>
<th>Yıllar</th>
<th>GSYİH (TL)</th>
<th>Turizm Geliri (TL)</th>
<th>GSYİH (Dolar)</th>
<th>Turizm Geliri (Dolar)</th>
<th>Dolar Kuru</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1 160 013 978 258</td>
<td>28.856.104.530</td>
<td>769.442.502.018</td>
<td>19.110.003.000</td>
<td>1,51</td>
</tr>
<tr>
<td>2011</td>
<td>1 394 477 165 521</td>
<td>37.333.722.720</td>
<td>831.007.855.123</td>
<td>22.222.454.000</td>
<td>1,68</td>
</tr>
<tr>
<td>2012</td>
<td>1 569 672 114 915</td>
<td>40.338.657.000</td>
<td>871.488.159.614</td>
<td>22.410.365.000</td>
<td>1,80</td>
</tr>
<tr>
<td>2013</td>
<td>1 809 713 086 703</td>
<td>48.365.578.810</td>
<td>949.764.844.345</td>
<td>25.322.291.000</td>
<td>1,91</td>
</tr>
<tr>
<td>2014</td>
<td>2 044 465 875 822</td>
<td>60.833.876.940</td>
<td>932.779.054.919</td>
<td>27.778.026.000</td>
<td>2,19</td>
</tr>
<tr>
<td>2015</td>
<td>2 338 647 493 683</td>
<td>69.193.870.560</td>
<td>858.245.530.525</td>
<td>25.438.923.000</td>
<td>2,72</td>
</tr>
<tr>
<td>2016</td>
<td>2 608 525 749 333</td>
<td>48.453.884.430</td>
<td>861.842.193.495</td>
<td>15.991.381.000</td>
<td>3,03</td>
</tr>
<tr>
<td>2017</td>
<td>3 110 650 154 919</td>
<td>73.813.844.150</td>
<td>851.240.596.343</td>
<td>20.222.971.000</td>
<td>3,65</td>
</tr>
<tr>
<td>2018</td>
<td>3 724 387 935 570</td>
<td>115.816.459.020</td>
<td>772.355.024.872</td>
<td>24.028.311.000</td>
<td>4,82</td>
</tr>
</tbody>
</table>


Tablo 2. GSMH Serisinin ADF Birim Kök Testi Sonuçları

<table>
<thead>
<tr>
<th>ADF Test İstatistiği</th>
<th>Normal Form</th>
<th>%1</th>
<th>%5</th>
<th>%10</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birinci Farklar Cinsinden</td>
<td>-3.003216</td>
<td>-2.641672</td>
<td>-1.952066</td>
<td>-1.610400</td>
<td>0.9984</td>
</tr>
</tbody>
</table>

Tablo 3. Turizm Gelirleri Serisinin ADF Birim Kök Testi Sonuçları

<table>
<thead>
<tr>
<th>ADF Test İstatistiği</th>
<th>Normal Form</th>
<th>%1</th>
<th>%5</th>
<th>%10</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birinci Farklar Cinsinden</td>
<td>-2.284210</td>
<td>-2.641672</td>
<td>-1.952066</td>
<td>-1.610400</td>
<td>0.0238</td>
</tr>
</tbody>
</table>

Tablo 2 ve Tablo 3’te yer alan istatistikler incelendiğinde normal forma verilerin durağan olmadığını analizlerede (Prob >0,05). İki veri seti içinde birinci dereceden farklar alındığında verilerin durağanlaştırıldığını görürmektedir (Prob<0,05). Verilerin durağanlaştırılmasından sonra ARDL sınır testi uygulanabilmektedir.

3.1 ARDL Sınır Testi

ARDL sınır testi Pesaran ve Shin tarafından 2001 yılında geliştirilmiş ve değişkenlerin durağanlığı doğrultusunda kısa ve uzun dönemde değişkenler arasındaki nedensellik ilişkilerini test etmek için kullanılmaktadır. Eşbütünleşme testlerinde olduğu gibi değişkenlerin aynı derece durağan olması koşulunu gerektirmektedir (Zengin, 2018, s. 69). ARDL modelinde değişkenlerin hangi
Türkiye’nin Ekonomik Büyümesi ile Turizm...

derecede durağan olduğu göz önünde bulundurulmak zorunda sınır testinin uygulanması mümkündür. Fakat ikinci dereceden farklıları alındığında durağanlaşan serilerde ARDL testinin uygulanması mümkün değildir. Dolayısıyla serilerin ikinci derecedede durağanlaşması olasılığının test edilmesi ARDL’nin uygulanması açısından önem arz etmektedir. ARDL yaklaşımı kullandıgı yöntemler neticesinde Engle-Granger testine kıyasla daha iyi sonuçlar üretilebilmektedir. Ayrıca küçük örneklemeler üzerinde Johansen ve Engle-Granger testlerine göre daha güvenilir sonuçlar verdiği düşünülmektedir.

4. Sonuç


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<th>Test İstatistiği</th>
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Tabloda yer alan F istatistiği kurulan nedensellik analizinin istatistik olarak anlamlı olup olmadığını değerlendirilmek için kullanılmaktadır. Hesaplanan F-Istatistik değerinin %10, %5, %2.5 ve %1 anlamlılık düzeyleri için hesaplanan üst sınırların büyük olması değişkenler arasında uzun dönemde anlamlı bir nedensellik ilişkisini var olduğunu göstermektedir. Dolayısıyla turizm gelirleri ile ekonomik büyüme arasında nedensellik ilişki olduğu söylenebilir. Sonuç olarak ekonomik büyüme olgusu düşünülüğünde turizm gelirlerinin de önemli bir değişken olduğu söylenebilir.


Kaynaklar


THE EFFECT OF HOUSING LOANS INTEREST RATES ON HOUSE SALES:
THE CASE OF TURKEY

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Abstract

By the year 2018 the real estate sector share of gross domestic product in output in Turkey appears to be 6.8%. Considering that this ratio is 8.2% in 2013, it is observed that the real estate sector decreased in the following period. One of the most important factors in the formation of this situation is the increase in housing acquisition costs. In fact, interest rates on housing loans with a maturity of 120 months, which fell to 0.67% in 2013, rose to 2% in 2018. The construction sector, which started with the increase in real estate sales, affects many sectors due to its forward and backward connections. These effects have recently led the government to pursue policies to reduce housing loan costs under the leadership of public banks. In this context, the main purpose of this study is to determine the effect of the government's policy rate cut on the real estate sector, in other words, the sensitivity of the real estate sector to housing loan interest rates. In this respect, it is determined that there is a negative relationship between the two variables in the study used by mortgaged house sales and housing loan interest rates for 2013: 01-2019: 07 period with the help of markov regime change model. This result show that interest policy is an effective tool in supporting the housing market.

Keywords: Interest Rates, Housing Market, Markov Regime, Turkey.

Özet


Anahtar Kelimeler: Faiz Oranı, Konut Piyasası, Markov Rejimi, Türkiye.
Abstract

This paper aims to identify the particular constituents effecting the Turkish domestic fuel prices, for the period from 2005 to 2019.

Fuel prices in Turkey are formed by three main components: product cost, taxes and gross industry margin. The changes in product prices are reflected to domestic fuel prices after certain formulations, and also taking the exchange rate into consideration. The products from local refineries and imported through terminals are delivered to the market after taxation including special consumption and value added taxes.

The first component is product cost which is calculated using Platts European Market Scan CIF MED (Genova/Lavera) prices ($/tonne), taking exchange rate and densities of fuels into account. The impact of oil prices into economies of oil importing countries is significant and therefore represents a great deal of attention from both governments and the consumers. International oil prices have shown significant fluctuations over the last years due to dependencies on the supply-demand balances, production capacities of oil suppliers, political and social instabilities in oil producing countries, effect of new technologies and developments in the global economy. There is a strong correlation between CIF MED product prices, which are taken into consideration in Turkey and Brent crude oil prices. Changes in Brent prices are reflected to CIF MED prices depending upon available stock and demand in the region and they are reflected to list prices in Turkey issued in Turkish Liras considering changes in exchange rates. So, Brent is an important indicator for domestic fuel prices, but in calculations Platts CIF MED product prices are used. In recent years, especially due to uptrend in US Dollar/TL exchange rate, the share of product cost in pump price is going up.

The second component is tax that is the sum of Special Consumption Tax (SCT) (differs across the fuels) and Value Added Tax (VAT) determined by Ministry of Treasury and Finance. Until May 2018, the VAT was 18% and the Special Consumption Tax was constant and it was 2,3765 TL/Lt for unleaded gasoline 95 octane and 1,7945 TL/Lt for diesel, respectively. But with the Pursuant to the Resolution of the Council of Ministers dated 14/05/2018, the SCT amounts changed depending on refinery prices. On the other hand, the VAT is still 18%. Although the share of tax is decreasing in recent years, traditionally the tax component has the most share in pump price.

The third component is gross industry margin which is the sum of refinery, distributor and retailer margin added to the product price by national refineries for refinery part and then including costs from the procurement of the products to delivery to the end-consumer for the distributor and retailer part. With this margin, the companies finance their operations which includes their operational profits. The margin of companies has the least share in pump price.

According to the results, tax has the most share in pump price, but in recent years due to an uptrend in exchange rates, the share of product cost is increasing.

Keywords: Fuel Price Formation, Product Cost, Tax, Gross Industry Margin, Pump Price.
TOURISM ECONOMY IN SUSTAINABILITY CONCEPT - PERSPECTIVES AND CHALLENGES

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Abstract

Progress in the area of sustainable development is still insufficient despite many initiatives being taken at the global as well as the local scale. This insufficient progress also applies to sustainable tourism. In fact, it is only partially sustainable because not all of its components meet the criteria of sustainable development. The degree of sustainability in tourism can be greatly increased by transforming conventionally operating manufacturers of tourist services into sustainable enterprises. This requires revolutionary changes in the structure of resources that they have. All the resources of this type of enterprises should be sustainable. Sustainable human resources play the key role in the area; sustainable staff consists of managers and operational employees engaging in sustainable development. They guarantee effective realization of ecological and social objectives. The article is conceptual in its nature. The main aim of this article is to present model solutions for the structure of resources of sustainable producers of tourist services and their attributes. With the solutions being proposed, tourism will contribute to a greater extent to balance intergenerational needs. The research methodology used in the preparation of this study has been subordinated to its guiding purpose. Non-reactive methods are mainly used, i.e. critical analysis of scientific literature and internet query. The implementation of the model solutions presented in the article will contribute to increase pro-ecological and pro-social activities of enterprises, which will have a positive impact on balancing the intergenerational needs.

Keywords: Sustainable Tourism, Sustainable Development, Sustainable Manufacturers of Tourist Services, Sustainable Resources.

1. Introduction

The era of sustainable development began already in the ‘60s of the twentieth century, but the assumptions undertaken this area have not significantly affected the improvement of our planet. Analysis of the data contained in Living Planet Report 2018 leads to the conclusion that our "demand for nature" is still unbalanced, and the exploitation of the Earth has already exceeded the limits of nature’s tolerance. This situation does not improve the elemental, often dysfunctional, development of postmodern tourism. In the context of these disturbing phenomena, the aim of the article is to present solutions regarding the resource structure of tourism service providers in the aspect of sustainability, the essence of which is to achieve economic, social and ecological goals as well as the idea of satisfying the needs of humanity without harming future generations.

Creating sustainable tourism products is only a part of pro-ecological and pro-social activities. An important complement to it should be the transformation of conventional business entities operating on the tourist market into those that, taking up this challenge, would conduct their activities in accordance with the spirit of sustainable development. What researchers emphasize, the point is to manage the existing resources of the environment, space and infrastructure economically, thus avoiding destructive changes in the natural and socio-cultural environment [Pabian A., Bylok F., Kućeba R., Zawada M., 2013, p. 41]. Learning how to live and work in accordance with the concept of sustainable development is, according to L. Thiele, the greatest challenge of our time [L. Thiele, 2016, p. 2-3]. Bearing this in mind, in this article I try to present some specific solutions, hoping that this elaboration will be an inspiration for further scientific discussion and in the practical sphere an incentive to create modern tourism enterprises, which are the part of sustainability idea.
2. Sustainable Tourism

Mass tourism, referred to as the 3S formula (sun, sea, sand), began to develop intensively in the ‘60s of the twentieth century, which was supported by the dominant and already developed mainstream of Fordism. At that time, the forms of work organization were adapted to the needs of production focused on mass recipients and the distribution of band products and serial goods. In tourism, this has been translated not only into the development of the hotel industry, tourism offices and modern means of transport, as well as on spatial development covered by mass tourism in areas. Such conventional mass tourism due to its passive nature, institutionalization and standardization of the offer is now called hard. It is opposed to its more ambitious 3E tourism (education, excitement, entertainment), which is associated with the change of tourism and recreational behavior as well as travel motivation. The guiding idea and the sense of 3E tourism is the active way of spending time by tourists, acquiring or expanding knowledge, enriching personality, satisfying emotional needs, protecting the natural and cultural environment of tourism destinations. Optionally for the 3E model there is a similar tourism formula in 3L (leisure, landscape, learning). Over the last dozen years or so, probably one of the most important concept of tourism development has been taken, which is sustainable tourism, also referred to as soft tourism or environmentally sensible tourism. It is based on the sustainable development model, which was first defined in the UN Declaration (1972) and finally clarified in 1987 by the World Environment and Development Committee in the "Our common future" report. Four years later during the “Earth Summit” in Rio de Janeiro representatives of various countries of the world signed the so-called: The Earth Charter, in which 27 priorities of sustainable development were formulated.

Genetically sustainable tourism is derived from the concept of alternative (intelligent) tourism, which in the mid-1980s was a response to the negative effects of the development of mass tourism. In 1975, the term "green tourism" was used in France, which was understood as agro-, ecotourism and hunting. The term "served German researchers to introduce a few years later the term: soft tourism" (German: sanfter Tourismus), which began to be treated as synonymous with the term alternative tourism and the increasingly popular: sustainable tourism. (umweltvertragliche Tourismus)" [A. Kowalcyk, 2010, p. 10]. Some scholars, in their bold interpretations, look for the origin of sustainable tourism in antiquity, deriving it from Aristotle idea of phronesis understood as the virtue of practical wisdom, which should be contrasted with theoretical wisdom (sophia) and technical wisdom (techne). Phronesis deals with the truth related to the finding and place of man in the world and with his responsibility for the environment.

It is a fact that sustainable tourism has recently gained more and more recognition among researchers and tourists. It is understood as the broad concept of "environmentally friendly tourism development in rural regions and cities, in small tourist centers as well as large entertainment and leisure centers, etc., a concept that applies to all known types of tourism after having made it greenery appropriate" [D. Zaręba, 2000, p. 35]. It means respecting the cultural, social and natural values of the area in which tourists reside, respecting and protecting natural and cultural resources, also respecting identity, tradition and a way of life of local communities with simultaneous use (mainly by the local community, to a lesser extent by external investors) of the economic chance that tourism brings for the economic development of the region. The concept is much narrower ecotourism, understood as one of the forms of travel, closely related to the nature and indigenous culture of areas with high natural values.

Sustainable tourism, however, is not about limiting the number of tourists, because tourism is now, as Lesley Pender emphasizes: “the largest branch of the global economy" [L. Pender, 2008, p. 24]. It is about its harmonious development on a global scale in the most environment-friendly, socio-cultural and economic way that is possible. Sustainable action in the field of tourism will lead to many positive effects, among which D. Fogel mentions: the balance between the resources used and the resources subject to regeneration, purity of resources, restoration and maintenance of the ability to live, integrity and diversity of natural systems, maintaining societies and cultures of the place [D. Fogel, 2016, p. 7]. R. Brinkmann emphasizes an important feature of sustainable business: in this sphere, profit is just as important as the impact of activities on people and the planet [R. Brinkmann 2016, p. 1].

The key challenge in sustainability is to strive to transform traditionally operating tourism enterprises into sustainable organizations. The concept of a sustainable producer of tourist services
should be understood as an organization whose resources and activities are subordinated to the principles of sustainability. Conventional resources, which in the first place should be subject to pro-ecological and prosocial transformation, can be divided into the following types:

- a) people (employees in managerial and non-managerial positions),
- b) building infrastructure (buildings or rented rooms only),
- c) equipment of buildings and rooms,
- d) transport machines,
- e) falling goods, what means products that are used in current operations.

The essence of the concept of a sustainable producer of tourist services is based on two pillars, i.e. on sustainable resources and on sustainable services’ activities. Usually, this are the resources that determine whether the service activity is sustainable or not. It can be exemplified on the basis of a tourism transport service, which performed using conventional coaches, will not be balanced until the rolling stock is replaced, for example, by electric vehicles.

Sustainable resources in the form of staff, buildings and their equipment, means incoming goods which constitute a key factor for enabling service activities in a responsible manner. However, the most important factors in the process of sustainable development are the people themselves, and among them - the top management managers, whose genuine personal commitment depends on the effectiveness of accepting change. They decide about the implementation of sustainability principles in professional practice, specifying, among other things, what resources and to what extent should be used. Top managers undertake and approve the most important decisions regarding the resources and operations of the economic entity both in the short and long term perspective. It depends on them whether the tasks of a socio-ecological nature, and to what extent, will be taken into account in the strategic, tactical and operational plans. They can assign priority to these tasks or marginalize them. They may require genuine implementation or only creation of the appearance of a tourism company's involvement in sustainable development.

2.1 Human Resources with Sustainability Features

Human resources with sustainability features are both executive managers as well as line employees. The factors that favour their involvement in sustainable development include:

- a) knowledge of sustainability,
- b) socio-ecological sensitivity,
- c) openness to new solutions,
- d) personal creativity and ability to innovation.

Employees’ knowledge must refer to the state and effects of socio-ecological threats occurring inside and outside tourism entity in considerations and the possibilities of counteracting them. On its basis, managers and employees will undertake more or less effective operational activities for sustainable development and set further directions for the development of a tourist company. In turn, socio-ecological sensitivity means care, sharpened attention and the ability to respond to problems occurring in ecological area, while openness to new solutions is associated with ability to acceptance and implementation in particular areas of the company's operations. The innovation of human resources is also very important. Competent and creative managers and contractors will search for new technical, technological and organizational solutions or improve existing ones, contributing to the protection of the natural environment and elimination of social problems.

The acquisition by the staff of the above mentioned characteristics (points a to d) is the basis for undertaking effective actions in the area of sustainability. In the case of managers and contractors, the forms and directions of this activity will, however, differ as they perform different functions in the organization of tourism service providers. Company managers work with people, making different decisions. Therefore, their main task should be to convince and motivate subordinate personnel in order to implement sustainability principles at workplaces, including care for development and formalization of activities in this area. Executive employees cooperating with their managers may contribute to the improvement of the natural environment and to the elimination of social problems by initiating changes concerning:

- a) equipping workstations, e.g. applying for the purchase of ecological computers, furniture, etc. to the travel agency,
b) the way of work, e.g. economically using office supplies,
c) work environment, for example, suggesting the replacement of bulbs with energy-saving ones.

It is also important from the managers and contractors point of view to engage in public campaigns aimed at counteracting social pathological phenomena or these which are aimed at helping vulnerable people, for example people with disabilities, patients or those injured in natural disasters.

2.2 Construction Infrastructure with Sustainability Features

The construction infrastructure of tourism service providers is in practice very diverse. Its size and structure depend, for example, on the profile or scale of business operations. However, one can point out two extreme cases. The first one concerns such producers, who have a large building base, e.g. hotel chain, while the second one includes single, small tourist entities located in premises rented by them.

In accordance with the idea of sustainable development, each producer of tourist services should however, regardless of the type of business and the amount of revenue generated, strive to locate their business in facilities that meet sustainability criteria. To achieve this goal, he can use the following options:
a) erect new buildings with such features,
b) transfer the activity to this type of construction works,
c) modernize existing ones in this respect.

In accordance with the principles of sustainable development, such buildings are erected as a result of the so-called: clean production based on natural, renewable and healthy materials of local origin (e.g. wood, brick, clay). It means that they do not disturb the landscape, they are durable, they have a simple and light construction and after usage circle they can be recycled. They use harmless construction and finishing materials. They also shapes the appropriate microclimate inside the rooms (temperature, humidity, filtration and air ventilation), also protects the interior against noise, and finally provides the right lighting. Such buildings are therefore friendly to people staying there and do not harm the natural environment. A very important feature of architecture with sustainability features is also energy efficiency. The benchmark solution in this area is so-called an autonomous building, which is a construction to which no external energy is supplied. It is possible thanks to the use of modern wall, window and roof insulation systems and the use of renewable energy: solar, wind, and also from the inside of the Earth. Collectors and solar cells (solartermia) allow the transformation of sunlight into heat, which is used for heating utility water and the operation of central heating. Wind turbines or photovoltaic cells that convert solar energy into electricity can be used to generate electricity. One can also use geothermal energy sources and biogas plants. Another important element is also natural indoor and outdoor lighting, powered by solar energy. The reduction of artificial lighting allows innovative design solutions that ensure maximum use of daylight inside the facility.

The rational use of water is also important for sustainability canon. Therefore, modern solutions should take into account equipping buildings with rainwater tanks (use of rainwater) and at water purification and treatment stations (used water is recycled again). Water, coming from these sources, is usually used for irrigation of plants and flushing toilets. It is also advisable that the building has biologically active surfaces (e.g. green roofs, elevations). In its interiors should be green places with vegetation, which does not require intensive watering.

The costs associated with the construction of ecological buildings are about 5% higher than the traditional way of building, but this investment returns within five to 15 years. Green buildings save 30 to 50% of energy, consume about 30% less water, about 40% of CO2 emission to the atmosphere is reduced. Finally, these buildings produce as much as 70% less waste compared to standard buildings [www 1]. In some countries, modern eco-certified buildings are being surrendered today.

2.3 Sustainable Equipment of Touristic Facilities

Another important issue is the adequate furnishing of buildings in which business activity is carried out. It is important that it should consists of durable, safe and health objects. An example may be so-called sustainable / ecological furniture, which is produced from renewable materials of national origin. Ecological character should also have fillers (e.g. sheep's wool, rubber latex, shredded straw),
upholstery fabrics (e.g. organic cotton, flax, silk) as well as glues used to join parts forming the furniture (natural instead of synthetic).

Another important element of building equipment are various types of devices, e.g. computers, printers, scanners, which are located in offices, hotel rooms, restaurants, cafes, recreational and sports facilities. Producing one unit of desktop computer requires consumption of over 240 kg of fossil fuels, 22 kg of chemicals and 1500 kg of water. Over 1000 various types of materials, including toxic ones, are used in their production. Computer integrated circuits contain lead and cadmium, computer monitors - mercury and bar, and batteries - lithium, nickel-cadmium. Therefore, the tourist service provider should not use conventional but only sustainable computer equipment that is already on the market. An example is the Lenovo ThinkCentre M57 / M57P Eco Desktop, which has been awarded the Greenguard Ecological Certificate, as it contains components made of recyclable materials. Has successfully passed tests for 2000 different chemical emissions [www 2]. The sustainable electronics group also includes EIZO FlexScan Eco View monitors equipped with the EcoView Optimizer 2 function, which allows you to reduce energy consumption by up to 30%. These monitors are characterized by high durability, as evidenced by a five-year manufacturer's warranty. Equally important from the point of view of the degree of sustainability is the type of peripheral devices used.

2.4 Transport with Sustainability Features

Different means of communication are used not only for the carriage of tourists (air, car, rail, sea and inland transport), but also for ongoing activities related to the management of tourism entities. From the point of view of sustainable development, pro-ecological and pro-social communication should be used. However, there are two major barriers to achieving this status. The first of these is the fact that there is insufficient access to sustainable modes of transport. The tourist services manufacturer can build a building with sustainability features for his own needs, but he will not design and produce such aircraft, coach, car or ship. The most modern means of transport can only buy or charter. Finance is another major barrier to sustainable tourism transport. In order to reduce costs, and hence also prices, the manufacturers of tourist services sometimes use means of transport that cannot be counted among the most modern. For example, planes are not chartered from the leaders of the aviation market, but from low-budget carriers. The degree of sustainability of such means of transport is lower, which certainly does not contribute to the development of tourism in the aspect of sustainability.

There are already large-scale transport means on the market that should be used in tourism. Let the coach Iveco Magelys (Coach of the Year) use as the exemplification. It was awarded the first place in the European competition for the best coach in 2016. The competitions have been held since 1989 and their organizer is the Association of Commercial Vehicle Editors. This coach is equipped with a 9-liter Cursor FPT engine, which has a 10% lower fuel consumption than its predecessor. Thanks to modern solutions, such as the use of the latest generation of Common Rail injection and the HI-SCR catalytic reduction system, the power unit of this coach has a lower mass and high reliability. Passengers' lives and health are guarded by modern, technical active and passive safety systems, including: ABS, ASR, EBS (electronic stability program), ACC (adaptive cruise control, keeping a safe distance from the vehicle in front) and LDWS (warning system against leaving the lane). Balance features have also electric communication means.

2.5 Sustainable Falling Goods

Falling goods cover all durable and unstable products that the tourist service provider purchases in order to conduct ongoing operations. They include both products consumed during the performance of services (e.g. groceries purchased by restaurants) as well as intended for administration and service needs, including office supplies (including catalogs in paper versions, hotel information brochures about services, tourist folders and advertising leaflets, disposable packaging in gastronomy). A lot of paper is consumed by the administration.

The most common raw material in paper production is wood, the sourcing of which reduces the size of forest areas and destroys natural ecosystems. In addition to this raw material in the factories of paper and printing houses consumes energy, water and many other components, it also uses
Tourism Economy in Sustainability...

technological lines, performs transport and storage operations. All this creates ecological and social problems. The tourist service producer should not only buy products made of ecological paper, but also minimize its consumption. It is also advisable to purchase all goods from local producers and suppliers that are characterized by high ecological and social sensitivity, and their products have been manufactured in accordance with the principles of sustainable development and awarded with appropriate certificates.

3. Conclusion

Sustainable tourism requires a holistic approach based on comprehensive solutions. Sustainable tourism can only be implemented by economic entities that are characterized by a systemic approach to the principles of sustainability, i.e. organizations whose managers and employees understand these principles and try to implement them in all functional areas of their operation.

Sustainable features must be demonstrated not only by tourists, but also by all tourism service providers. A systematic approach that brings together economic, social and environmental goals must be accompanied by a systematic functional approach in all areas of tourism companies' activities at the stage from the area of emission to the tourist reception area.

Further development of sustainable tourism requires adding to the system - sustainable tourism services and tourists respecting the principles of sustainability - yet another important element, which is the producers of tourist services observing the principles of sustainability. And this is not about sporadic or apparent activities for sustainable development, aimed at improving one's image, but about a comprehensive transformation that will make all resources and activities of a tourist service provider contribute to the balancing of intergenerational needs and the development of sustainable tourism.

References

ANALYSIS OF SMALLHOLDER FARMERS’ INFORMATION NEEDS ON CLIMATE-SMART AGRICULTURE

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Abstract

Climate change affects agricultural productivity – especially of poor small-holder farmers. In the coming years, majority of the world’s major crops, such as maize, rice etc, will experience reduced or stagnant growth rates as a result of extreme temperatures and highly variable rainfall patterns brought by climate change. This variation in climatic conditions poses serious threat to the sustainable development of small-holder farmers who depend on rain-fed agriculture for their livelihoods. It is therefore essential that farmers are supported with innovative agricultural and scientific solutions to sustainably assist them in combating the threats posed by climate change.

Climate-Smart Agriculture (CSA) is a viable option, it offers farmers the opportunity to sustainably increase agricultural productivity by supporting the incorporation of adaptation and mitigation. CSA is an approach needed to transform agricultural systems to effectively support development and ensure food security under climate change. CSA gives farmers a framework for achieving increases in agricultural production despite the increasing climate variability being caused by climate change. This helps to secure both individual livelihoods and global food security scaling up or growing a farming enterprise, within an enabling policy environment. The transformation of smallholder farmers in to climate-smart farmers has to begin with the identification of their specific information needs with regard to CSA. This step is crucial because information assists farmers in reducing daily farming uncertainties and enhances their decision-making in crucial times of the agricultural production cycle.

The primary purpose of this study is to analyse information needs of smallholder farmer with regard to CSA in Mahikeng Local Municipality, North West Province, South Africa. A simple random sampling technique was used to select a sample of 170 participants from a total of 1449 smallholder farmers provided by the North West Department of Rural, Environment and Agricultural Development. A structured questionnaire was used to elicit information from the participants. Descriptive and inferential statistics were used to analyse data.

Results obtained from the descriptive analysis revealed that the average age of respondents was 49 years. A majority of the respondents were male, married, had an average farming experience of 20 years and, an average household size of 5 members and were in possession of high school level of education. Most respondents were involved in livestock farming, had inefficient access to public extension officers, climate information, off-farm income and credit. The main source of information was from fellow farmers and members of the family.

A majority of the farmers had a high need for information on CSA, their knowledge level on CSA was low, while their attitude towards CSA was positive. Age (p < 0.05), farming experience (p < 0.05) and farm income per month (p < 0.05) had statistically significant relationships with smallholder farmers’ information needs on CSA. It is, therefore, concluded that an enabling environment should be created by the Government of South Africa for the timely and accurate provision of the much-needed information on CSA by smallholder farmers.

Keywords: Climate Change, Climate-Smart Agriculture, Climatic Variations, Small-Holder Farmers, Information Needs.
DEVELOPMENT OF OUTSOURCING IN UKRAINE AND THE WORLD

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Abstract

Searching for effective forms of business process organization and relationships between companies with partners in international markets increasingly leads to the use of outsourcing. The analysis of approaches of American, Western European, Russian and Ukrainian scientists to determine the definition of "outsourcing" made possible to classify them having distinguished the nature of the phenomenon, which is: the process of transfer, transmission of internal functions or business processes to external contractor; the process of acquiring of resources and services which ensures functioning of the main activities from external contractors; modern methodology or strategy of business organization, which is based on a decision to restructure the business model.

Globalization of the world economy became the basis for the formation of the world market of outsourcing services. There was analyzed the dynamics of the market of outsourcing services including its types, determined leader countries which provide outsourcing services. Among the major trends in outsourcing services we can include growing competition, involving new countries and regions, the emergence of new market players and increased demand for high-tech services.

There was formed a summarizing of all possible approaches and their own understanding of the concept of "outsourcing". It is determined that the main objective of outsourcing is to get the competitive advantages by improving economic activity, retention of key competencies, transformation of business models, creation of strategic alliances and business networks. At present outsourcing is presented in many areas of business.

The article defines countries-leaders specializing in outsourcing, explores the features of outsourcing development in Ukraine.

Keywords: Outsourcing, Market Outsourcing Services, IT Outsourcing, IT Industry.

1. Introduction

To date the development of the world economy is characterized by increased processes of globalization, competition, the active dissemination of information technology. All these tendencies lead to the strengthening of the role of such forms of interaction between enterprises in the domestic and foreign markets, which ensure reduction of costs, strengthening of competitive items, expansion of markets. Outsourcing is widely used in international business practice and is a modern methodology for creating highly effective and competitive companies. Outsourcing is an alternative to vertical integration and provides the formation of a system of long-term relationships between companies (horizontal and vertical), and the result is in economies on a scale, integration of production processes of various forms, innovative development of the company.

2. Literature Review and Research Methods

In the practice of international business, the concept of outsourcing has been known since the 30's of the 20th century. Accordingly, the study of the topic of outsourcing is more fully disclosed in the works of Western European and American scholars (Clements and Donelan, 2004; Heywood, 2001; Abramovsky, Griffith, & Sako, 2004). In Ukraine, theoretical and methodological principles of outsourcing are considered fragmentarily in the light of international experience (Zozuliov, Mikalo, 2009). The essence of outsourcing, its advantages and goals are devoted to the author's previous scientific works (Chmut, Osadchiy, 2017, Bilan, Ushkarenko & Chmut, 2017, Koshkarova, 2016). In
the analysis of modern approaches to the definition of outsourcing it is noted that the views of scientists regarding the very essence of the phenomenon somewhat diverge. For example Heywood J. Brian defines outsourcing as transferring of an internal business function or functions, plus any associated assets, to an external supplier or service provider who offers a defined service for a specified period of time, at an agreed but probably qualified price (Heywood, 2001). Abramovsky, Griffith, & Sako define it: “Outsourcing is specialization outside the firm. This occurs when firms opt to 'buy' rather than 'make' in-house. That is, outsourcing involves greater specialization as firms switch from sourcing inputs externally to sourcing them from separately owned suppliers” (Abramovsky, Griffith, & Sako, 2004).

The monographic method, the method of scientific abstraction, combined analysis and synthesis method were used for a comprehensive and profound study of the individual phenomena characteristic of a certain set of factors, the actions of factors in order to reveal the regularity of processes and identification of the causal relationships of their development. The use of the graphical method gave an opportunity to illustrate visually and schematically the representation of the studied phenomena and processes.

3. The Essence of Outsourcing

The term "outsourcing" is a neologism derived from "external resource use". Despite the fact that this concept appeared and became widely used in the 80's of the 20th century, the idea of attracting resources and third party firms to solve certain production tasks is not new for economic theory and management theory and practice. In the 30's this strategy was used by the automotive industry (General Motors, Ford) (Zozulov, 2009). To date, Ford has implemented 90% of its business processes through outsourcing. From the very beginning, the concept of "outsourcing" was seen as the transfer of some non-core functions to the subcontracting principle, or the purchase of goods and services made by a special third party (outsourcer) for the customer (outsourcer) (Bilan, Ushkarenko & Chmut, 2017).

In terms of a systemic approach to organizations, using or not using outsourcing can be considered as the next open system that has the following graphical form (Fig.1).

![Diagram](source)

**Source:** Own adaptation.

**Figure 1. Organization as an Open System that Implements all Functions Independently and Using Outsourcing**

The scheme shows two options: an independent implementation of all processes from "1" to "n" (left) and transfer of y-processes to outsourcer, that is why the company independently performs n-y processes (right) (Bilan, Ushkarenko & Chmut, 2017).
On the basis of the previous study, an author's approach was drawn up to summarize all possible areas of understanding of the concept of "outsourcing", the essence of which is shown in Fig. 2.

This approach integrates existing positions both to the definition of outsourcing itself, and the purpose of its application in the work of the company.

The semantics of the concept of outsourcing is closely linked to a number of other meanings that characterize different forms of partner’s relationships between organizations: offshore, vertical integration, cooperation, subcontracting, specialization, division of labor, quasi-integration, etc.

![Diagram of Outsourcing and Business Form Based on Partnership]

Source: (Chmut A., Osadchiy O., 2017)

**Figure 2. Formation of Author’s Interpretation of the Term "Outsourcing"**

### 4. Trends in the Development of Outsourcing in the World

Globalization of the world economy has become the basis for the formation of a global market for outsourcing services, which makes it possible to study this phenomenon at the levels of a company, branch of industry and the world level.

Nowadays, outsourcing is common in many business areas. Outsourcing service providers offer their services in the field of information technology, marketing, logistics, component manufacturing, personnel management, accounting, legal support, administrative and commercial services.

Dynamics of development of the world market of outsourcing services is shown in Figure 3.

![Graph of Outsourcing Market Dynamics 2000-2017]

Source: (Outsourcing – Global market size, 2017)

**Figure 3. The Dynamics of the Outsourcing Market for the Years 2000-2017**
Development of Outsourcing in Ukraine...

As it can be seen in the figure, from 2000 the market for outsourcing services has grown rapidly. Growth peaked in 2014 (104.6 billion U.S. dollars). Over the past three years, outsourcing outsourcing industry incomes have been unsustainable. In 2016 there was a recession, but in 2017, the industry's income amounted to 88.9 billion U.S. dollars. The largest share of revenue for this industry came from Europe, the Middle East and Africa, followed by the Americas. A much smaller share of global revenue came from the Asia Pacific region.

In 2016, the largest share of the value of contracts fell on contracts in the field of IT outsourcing - 72.3%, and outsourcing of business processes - 27.7%. The value of contracts in 2017 increased for both types: IT outsourcing by 21% to 64.3 billion dollars, and business processes - by 2.5% to 24.6 billion dollars. (Figure 4). Experts of Outsourcing Institute (The Outsourcing Institute, USA) in their studies define IT outsourcing as a market leader of modern outsourcing.

The use of outsourcing, as a new strategy for enterprise management, is being actively used by leading world companies which transfer manufacturing capacities and jobs from developed countries to developing countries.

![Dynamics of the Outsourcing Market by Type](Image)

Source: (Outsourcing – Global market size, 2017)

The use of outsourcing, as a new strategy for enterprise management, is being actively used by leading world companies which transfer manufacturing capacities and jobs from developed countries to developing countries. In particular, the American countries specialized in outsourcing are: Argentina, Brazil, Chile, Mexico, Costa Rica, Panama, Peru. Among Asia Pacific leaders in providing outsourcing services are: India, China, Bangladesh, Indonesia, Malaysia, Philippines, Thailand, Vietnam. Studies of regions specializing in outsourcing services in Europe, Africa and the Middle East allows us to focus on the following countries: Bulgaria, Czech Republic, Egypt, Morocco, Poland, Romania, Slovakia, Turkey, South Africa, Ukraine (Gartner's 30 Leading Locations for Offshore Services 2014).

Due to outsourcing in developing countries new jobs are created that require a high level of knowledge and, accordingly, increase the demand for educational services, in particular technical specialties. For example, India is the recognized center for outsourcing information technology. The country employs up to 80% of its global projects in this area, and the high-tech sector grows by 30% annually (Koshkarova, 2016).
The seller's leading position in international outsourcing is currently China, due to its advantages in relation to other countries, due to the low cost of resources. All this in turn stimulates economic growth in developing countries.

The largest consumer of outsourcing business processes is the North American market (USA, Canada). At the end of the twentieth century, the share of US companies that outsource production or service operations was 87% (Lepihina, 2007). The second most important consumer market of this type of services is the regions of Western Europe. The third-largest customer outsourcing service is Japan.

5. Development of Outsourcing in Ukraine

Ukraine, along with other mentioned Eastern European countries, is an active participant in the outsourcing market. The largest development with an increase of 15-20% annually demonstrates the IT outsourcing market in Ukraine. IT outsourcing in Eastern Europe is on the rise because of the low cost of highly skilled labor available in the region, as well as its geographical and cultural proximity. During the past 10 years, Ukraine has taken the leading position in the IT outsourcing market due to its IT-capacity. In 2016, the market for IT outsourcing reached $ 3 billion, and the number of IT professionals working in this area reached 230,000. The growth of the number of specialists is provided by the system of Ukrainian technical education. Annually, nearly 800 universities and colleges produce more than 38,000 IT professionals. 25% of all programmers (almost 23 thousand specialists) work in the top 25 companies. In the top ten IT companies: EPAM Systems, Luxoft, SoftServe, GlobalLogic, Ciklum, NIX Solutions Ltd, Infopulse, NetCracker, ELEKS, Miratech (Nix.com, 2016).

More than 1000 IT outsourcing companies are located in Ukraine providing a vast array of services related to technology development. According to Bloomberg Innovation Index 2016, Ukraine is ranked 41st for its adoption of innovations, and came ahead of India by four places. For instance, more than 100 R&D centers of major international companies such as Microsoft, Samsung Electronics, Apple, Wargaming, Boeing, Skype, eBay, Siemens, IBM, etc. are located in Ukraine. Moreover, 12 Ukrainian IT companies, including N-iX, Eleks, Ciklum etc., have been featured in the list Global Outsourcing 1002017 by the International Association of Outsourcing Professionals (IAOP) as the best outsourcing providers (Research of IT-market of labor, 2016).

The position of Ukraine among the most attractive for outsourcing European countries is shown in Figure 5.

![Figure 5: The Position of Ukraine among the most Attractive for Outsourcing European Countries](image)
As can be seen from the figure among the European countries, Ukraine ranks 7th in the attractiveness of outsourcing. In the overall ranking of countries of the world, Ukraine ranks 24th. Thus Ukraine has great prospects for IT outsourcing compared to outsourcing in general. Owing to the large number of highly skilled and efficient employees, which grows rapidly each year, outsourcing companies become more attractive for inflow of foreign capital and investments from the EU and the USA.

6. Conclusions

Taking into account the above study, it can be affirmed that the search for effective forms of organization of business processes and the relationship between companies with their partners in international markets increasingly determines the use of outsourcing. The main advantages of outsourcing are the provision of competitive advantages by improving the economic efficiency of operations, maintaining key competencies, improving the business models, creating strategic alliances and business networks. The global outsourcing market is developing rapidly. The main segments of this market are outsourcing information technology and outsourcing business processes.

Among the main trends in the development of the market we can include the growth and strengthening of competition, the attraction of new countries and regions, the emergence of new market participants, as well as increased demand for science intensive services.

References


Abstract
In this paper, we analyze the behavior of prices (inflation) in the era of fast information dispersion made possible advances in technology in particular the internet. With the help of readily available information, prices, and by extension inflation, should quickly converge in a perfectly competitive market structure, generating a zero economic profit for companies. Thus, we explore the possibility of a price convergence in the form of a reduction in regional inflation in the United States. Related to that, we examine the permanency of such a phenomenon if observed, as it is a concern for the monetary policy makers. We do so, by analyzing the behavior of the standard deviation of inflation in a number of regions over time in the USA by employing univariate as well as multivariate models. A particular attention in the multivariate model is devoted to the role of technology. In sum, we show that the standard deviation of inflation is not constant over time, but we do not necessarily observed an ever-declining pattern

Keywords: Inflation, Technology, Central Bank Policies.
REGIONAL DIFFERENCES IN HUMAN CAPITAL AND OCCUPATIONAL CHOICE: EVIDENCE FROM MEXICO

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Abstract

This paper attempts to explain the productivity differences across regions in Mexico. The choice of the country is motivated both by reasons of data availability and by differences in the occupational distributions across regions in Mexico. The primary data source of the study is micro-level survey data available at the Integrated Public Use Microdata Series (IPUMS). The data includes detailed information on individual socio-economic and occupational characteristics. The analysis is performed on individuals aged between 25 and 60 and includes samples for which sufficient data is available (1990, 2000, and 2010). The variable names, coding schemes, and documentation are consistent for most samples, which makes the analysis comparable across the periods.

The data shows that there are differences in education quality, school attendance, and the occupational choices across regions in Mexico. These affect the aggregate productivity of the regions. I build a general equilibrium model with frictions in the labor markets, quality of education, and school attendance to quantify their impact on regional economic development. The quality of education proxied by the test scores and school attendance help explain the substantial regional productivity differences in Mexico. I find that regions with a higher quality of education and schooling attendance have higher productivity: the model predicts that these explain 10-25% of the difference in the observed regional productivity. The regional differences in occupational choice caused by frictions in the labor markets contribute to productivity differences as well. Regions with occupational distribution skewed towards higher-skill occupations are, on average, 3-4% more productive than the lowest-productive regions.

It is shown that the regional differences in school attendance and the quality of education are essential factors in explaining regional productivities. The analysis also indicates that occupational choice can explain some of the differences in productivity observed across regions. This result has important policy implications, suggesting that policies and regulations designed to improve education and improve ways for people to move to highly productive occupations can have high social returns and increase the overall well-being of the population.

Keywords: Occupational Distribution, Regional Productivity, Human Capital, Friction, Roy Model.
Abstract

From the moment of its creation, the CAPM has played a very important role in the quantitative methods of the financial studies of the capital market. But the standard Global CAPM rates, are directly inapplicably to the majority of cases regarded to “risky” economies called emergent ones too. In this presentation, based on the Theory of Elementary Catastrophes, it shows, how the risk factors as i.e. “Country”, etc. can be quantified and added to the classical CAPM in order to obtain more objectivity in the respective applications. The result of applying an abstract mathematical theory using the technique of (pseudo)embedding (similar to the manipulations in the differential topology) to obtain concrete results in a specific area of knowledge, without considering details, should not generate surprise if we contemplate as a fundamental illustration the indisputable case of the statistics – said mathematical formalism explains any phenomenon, where the uncertainty is a predominant factor. So, the shift towards lower values of expected returns is considered as the effect of change in behaviour (the “catastrophe”) of the function describing the influence of risk factors. For now, our proposal is restricted to unimodal distributions where the risk perturbations are (up to infinitesimally) small but with considerable consecutions. The corrections to the CAPM can be calculated based on Γ-type distributions that would approximate the probability densities in the risk environments if we knew them beforehand.

Keywords: CAPM, Elementary Catastrophes, Expected Return, Emerging Economy Risks.

1. Introduction

According to the literature the Capital Asset Pricing Model (CAPM) “is a model that describes the relationship between the systematic risk and expected return for assets” in order “to make decisions about adding assets to a well-diversified portfolio”. But it is well-know the standard Global CAPM rates are directly inapplicably to the majority of cases regarded to “risky” economies called emergent ones too. This is, for example, the case of the Latin America where, each country has its own specific characteristics which introduce additional risks (if as reference point we take the application of the CAPM to the economy of the EE.UU.). The objective of this work is: to quantify the most important risk factors in order to be applied through the Theory of Elementary Catastrophes to the calculation of the risk “country”. Right away, in the second part of the introduction, are exposed without proof some generally known definitions and facts, but restructured with a view to our objective. Further, we propose a mode of calculating certain corrections with respect to the “classical” CAPM. The presentation finishes with several conclusions about the proposed method.

In the present article, we shall consider the concepts of return and risk as the most relevant notions with respect to an asset. The return is the total amount obtained when the provided regulative time for an asset is over. The risk is the probability for the occurrence of an unfavourable event namely, when the total returned monetary value after the finish of the financial operation is less than the investment (thesis and contrathesis).

It is clear, that the return basically depends on risks split in two types: systematics ones and diversifiable ones. Although the risks of the first type can unfortunately be both unpredictable and impossible to completely avoid, in some sense these may be taken into account by dint of analytical methods of description. On the other hand, the risks of the second type are evaluated by statistical method applications as well as anticipated through simulations based on the random processes theory, for example, applying the Monte Carlo algorithms.
Therefore, in order to describe mathematically the above situation, it is convenient to introduce such densities of probability, which depend analytically on the parameters $\alpha, \beta, ..., \gamma$ and so to take in account the “systematic” influences:

$$\rho = \rho(x; \alpha, \beta, ..., \gamma)$$

Here $\rho$ is a density of probability depending on a real variable $x$ and on the parameters $\alpha, \beta, ..., \gamma$. In our context, these parameters allow to consider the risks quantitatively, for example, Country risk, Payment risk, Exchange rate risk, etc. In each case, it will be necessary to see, the best method to do it. It is obvious that a large list of parameters would make the idea meaningless. Additionally, from the relation

$$\int_{-\infty}^{\infty} \rho(x; \alpha, \beta, ..., \gamma) \, dx = 1$$

one easily may appreciate that the density $\rho$ repeats its values for different quantities of its parameters. Assuming the differentiability of $\rho$ with respect to each of its arguments, we can assert the existence of local extremus points with respect to $\alpha, \beta, ..., \gamma$. Finally, let us clarify the interpretation of the real argument $x$. All investments are accounted for by decimal numbers. Each continue monetary value is represented by the closest centesimal.

In the following figure

Figure 1. A much Distorted Continuous Distribution Adjusted to a Set of Discrete Data

Here $\omega_0$ is the total loss of investment (so, $\omega_{x\text{,}y\text{,}z\text{,}w}$ is a centesimal value where $x, y, z, v$ and $v$ are digits) it is presented as an much-distorted probability distribution purposes of fixing the basic ideas. Up to the beginning of the investment period, we shall consider the return as the following random magnitude which is defined on the probability space $(\Omega, \mathcal{E}, \mathbb{P})$ (where the set $\Omega = \mathbb{R}$ and the respective probability $\mathbb{P}: \mathcal{E} \rightarrow \mathbb{I} = [0, 1] \subset \mathbb{R}$) according to the next formula:

$$\xi(x) = \frac{100x}{\text{asset's amount}}\%$$

Then, obviously, the expected return (in percent too) at the finish of the operation must be (see Fig.1) the expected value

$$K = K(\alpha, \beta, ..., \gamma) = \mu = \langle \xi \rangle = \int_{-\infty}^{\infty} \rho(x; \alpha, \beta, ..., \gamma) \, \xi(x) \, dx$$

Based on the same figure, one can define the following events $S = \{x: 100 \leq \xi_K(x) < K - \delta_K\}$, $L = \{x: 0 \leq \xi_K(x) < 100\}$, $F = \{x: \xi_K(x) < 0\}$, where the symbol $\delta_K$ is the standard deviation of $\xi$. Conditionally, the event $S$ we can call “a small earn” as long as $L$ and $F$ correspond to a loss and a forced post-investment respectively. It is possible to speak about the events $R = S \cup L$ and $U = R \cup F$ too (when there is no ambiguity as in our present case the annotation is simpler setting $\xi_K \equiv \xi$). Here the symbol $M$ is the mode. This paragraph serves to highlight ideas but usually, in practice, the graphics are simpler.
Starting from our probabilistic space \((\Omega, E, P)\), we can calculate the probabilities of the events (in the continuous case, the elements of \(E \subset 2^\Omega\)) through a simple integration

\[
\int_{\text{event}} \rho(x; \alpha, \beta, ..., \gamma) \, dx
\]

It is apparent, in the discrete case for the probability of the elemental event \(\omega\) we have \(p = P(\{\omega\})\) which can be approximately obtained by integrating onto a small neighbourhood around \(\omega\).

2. Application of the Catastrophes Theory

The catastrophes theory is part of the qualitative theory of the nonlinear complex systems. It considers how small external perturbations change the behaviour of a specific system within certain critical circumstances\(^{13}\). The elementary catastrophe theory reduces a wide variety of situations to a small number of standard schemes that can be studied in details. To formalize such circumstances, it is necessary to introduce a function of one or two variables which depends on several parameters (called co-variables) too. This modelling of critical processes actually results in a “classifying tools theory” which indicates mathematically the existence and, for lower co-dimensions, the unicity of the possible comportments of this function. Within our context, we shall consider a maximum up to of four perturbation parameters (even if, taking into account some general objections in practice, we will limit ourselves to two co-variables).

Let us suppose the existence of a several times differentiable function

\[ f : \mathbb{R}^m \to \mathbb{R} \]

where \( m = k + n \) being \( k = 1,2 \) the dimension and \( n = 1,2,3,4 \) the co-dimension of the functions \( f(x; \alpha, \beta, ..., \gamma) \) or \( f(x, y; \alpha, \beta, ..., \gamma) \). In same assumptions concerning general positions of geometrical seats in corresponding mathematical spaces, one can proof the following classification theorem\(^{14}\)(perhaps leaving aside the highly formal mathematical language):

Near bifurcation points depending on the dimension and co-dimension of the function \( f \) we can have the following and only following cases of intermittent changes resulting from a sudden response of the system to a smooth change of external conditions (disturbances) called these cases elemental catastrophes:

1. **Fold**
   \[ f(x; \alpha) = x^3 + ax \]
2. **Cusp**
   \[ f(x; \alpha, \beta) = x^4 + \beta x^2 + ax \]
3. **Swallowtail**
   \[ f(x; \alpha, \beta, \gamma) = x^5 + \gamma x^3 + \beta x^2 + ax \]
4. **Butterfly**
   \[ f(x; \alpha, \beta, \gamma, \delta) = x^6 + \delta x^4 + \gamma x^3 + \beta x^2 + ax \]
5. **Hyperbolic umbilic**
   \[ f(x; \alpha, \beta, \gamma, \delta) = x^3 + \gamma x^3 + \delta x^2 + ax + \beta y \]
6. **Elliptic umbilic**
   \[ f(x, y; \alpha, \beta, \gamma) = x^3 - 3xy^2 + \gamma(x^2 + y^2) + ax + \beta y \]
7. **Parabolic umbilic**
   \[ f(x, y; \alpha, \beta, \gamma, \delta) = x^2 y + y^4 + \gamma x^2 + \delta y^2 + ax + \beta y \]

reducing each possible situation to the above formulae.

Note, that a branch or bifurcation point is a value of the parameter(s) where the function changes its “character” (changes the class to which it belonged before); here, the external conditions are described by the parameter(s). Let’s illustrate all this theory using as an example the first (i.e. “fold”) catastrophe. Its graph, made with the help of the utility site https://www.mathstools.com/, is presented in the figure 2.

In this three-dimensional presentation we observe how, for nonnegative values of \( \alpha \) (for example, the foreground longline, which correspond to the function \( f(x) = x^3 + 1,5x \)), the two-dimensional fold graphs (the long white lines) monotonically increases with the argument \( x \); but, from the value \( \alpha = 0 \) (without including it) becomes a two-extremum function (for example, the last plane white line, drawing according to the function \( f(x) = x^3 - 1,5x \)). In mathematics, this “unforeseen” change in the behaviour of \( f(x; \alpha) \), passing through the zero value of the parameter \( \alpha \), is called “(elementary) catastrophe”.

So, the function \( f(x; \alpha) = x^3 + ax \) has two different types of graphics depending on the value of the (perturbation’s) parameter \( \alpha \) (Fig.2) which correspond to a certain systematic risk. When \( \alpha \geq 0 \), then the function \( f_R \) is monotonous and there is no extreme situations but, if \( \alpha < 0 \) there exist two – a maximal and a minimal values of \( f \) for appropriated values \( \alpha \) and \( \delta \); accordingly, in this case the
behaviour of the financial system is considered as unstable; in the sense that between the two extremes the probabilities change in reverse.

The variable $x$ is projected horizontally, the red line is the $\alpha$ direction and the graph is drawn using the vertical axis.

Whether an elementary catastrophe describes a natural or financial disaster, it depends on the model where the theory of catastrophes is applied. In the so-called “modelling” of the complex systems control, this term could simply mean a feedback adjustment.

In the mathematical development of the catastrophe’s theory, the bifurcation points are located on neighbourhoods where all the arguments are equal to 0 and the no perturbation function must be equal to 0 too. Nevertheless, being in its starting point the decomposition of Taylor, the classification theorem allows to reduce the cases of displaced origin to the well-known already list of elementary catastrophes. Taking into account that, in our case, the considered function $f$ always shall be related to a certain density of probability $\rho$, we are going to set up it defining it as follows (below, the 0-sub-index symbols are constant):

\[
f(x; \alpha, \beta, ..., y) = \rho(x - x_0; \alpha_0 - \alpha, \beta_0 - \beta, ..., y_0 - y) - \rho_0
\]

\[
f(x, y; \alpha, \beta, ..., y) = \rho(x - x_0, y - y_0; \alpha_0 - \alpha, \beta_0 - \beta, ..., y_0 - y) - \rho_0
\]

Moreover, further we shall consider the simplest, but very important case, when $k = 1$ and $n = 1$, i.e. when

\[
f(x; \alpha) = \rho(x - x_0; \alpha_0 - \alpha) - \rho_0
\]

So, the key idea of this work is to replace the probability distribution curves near the points of bifurcation via the approximations provided by the theory of catastrophes. The last would allow calculating the shift and/or deformation of the whole of the density probability curve in conditions of a perturbation. However, we must always keep in mind the curve $\rho$ is an adjusting and we are free to manipulate and/or approximate it as long as this does not unjustifiably improve or worse the (expected) return.
3. Systematic Perturbations in the Classical CAPM

The classical expected return \( r_a = \langle \eta_a \rangle \) (where \( \eta_a : \Omega_a \to \mathbb{R} \) is a random magnitude corresponding to the asset \( a \)) on an asset (in its pure form applicable to the US economy), according to the (traditional) CAPM is expressed by the following formula\(^{15}\):

\[
r_a = r_f + \beta_a (r_m - r_f)
\]

where, \( r_f \) is the risk free rate, \( \beta_a \) is a coefficient of security and \( r_m = \langle \zeta_m \rangle \) is the expected market return (\( \zeta_m : \Omega_m \to \mathbb{R} \)) to be calculated as from its respective probabilistic triplet. Both \( \eta_a \) and \( \zeta_m \) are created according to the (used by all statistics) definition of \( \xi \). For its part, the coefficient of security

\[
\beta_a = \frac{\sigma_a}{\sigma_m}
\]

Here the symbols \( \sigma_a = \sigma_\eta \) and \( \sigma_m = \sigma_\zeta \) are the standard deviations introduced according to the well-known statistical relation (\( \xi \) the is a random variable in general, that is, the mathematical facts about this symbol are valid for both \( \eta_a \) and \( \zeta_m \))

\[
\sigma_\xi^2 = \langle (\xi - \xi) \rangle
\]

Then the correlation \( r_{am} \) between \( \eta_a \) and \( \zeta_m \) is given by

\[
r_{am} = \langle \eta_a, \zeta_m \rangle = \frac{\langle (\eta_a - \langle \eta_a \rangle)(\zeta_m - \langle \zeta_m \rangle) \rangle}{\sigma_\eta \sigma_\zeta}
\]

Figure 3. Probability Density versus Expected Return Percentage

The black line is a classical CAPM (differential) distribution and the red line is an (imaginary however naive) "emerging" shift.

Then, the difficulty of the correction of the CAPM when applying to emerging markets would be to find the “displacement of the modes” by applying the said catastrophe theory. However, as within an economy the processes are complexly interrelated, we cannot lightly affirm that all values of the densities of probabilities would shift in the same way. Clearly, the approach must be different.

The main idea is to find a characteristic point where the classic CAPM distribution undergoes a sudden change that describes (as completely as possible) the influence of the disturbances due to the
risk under consideration. For this purpose, let us now consider the fold formula \( f(\alpha; \alpha_0) = (x - x_0)^3 + (\alpha_0 - \alpha)(x - x_0) - \rho_0 \) analysing the following figure

![Figure 4. Probability Density versus Expected Return Percentage](image)

The black line is a classical CAPM (differential) distribution, and the green line is the "emerging" shift and the characteristic point \( pt \) matches the origin of the Fig.2

The risk influence is obtained by means of a "fold catastrophe embedding" into a neighbourhood of the black segment uphill as follows: through the inflection point \( pt \) (if there is a straight segment, the half is chosen, Fig.4) which is the origin of the coordinate system to present the "fold" catastrophe, ayellow line, corresponding to the risk-free situation (where \( \alpha_0 - \alpha > 0 \)), is adjusted (for example, by the well-known least-squares approximation method \( 16 \)); the red line is the change of the situation as a consequence of the existence of the risk disturbance i.e. \( \alpha_0 - \alpha < 0 \) and the blue dot line is a pretended real risk distribution (if we knew them beforehand). Here it is important to emphasize that what allowed us to embed the graphs of the fold catastrophe in the distributions is the (merely) local existence of the "fold" description (that is, in a neighbourhood of the point \( pt \)). However, this advantage becomes an inconvenience when it comes to the "re-construction" of the distribution taking in account the risk – the unambiguous information is missing outside the aforementioned neighbourhood. Anyway, the yellow line determines \( \alpha_0 > 0 \) if it’s supposed that for a classic CAPM (i.e. in the shift beginning) \( \alpha = 0 \). There are several manners to "discovery" the green line which is the prediction with respect to the same branch but, for an emerging economy. For this reason, let it be the simplest unimodal (differential) distribution.

Adjusting by theredline neighbourhood of the green line, the re-construction of the (differential) distribution ownf or a risk environment is carried out in terms of a kind \( \Gamma \)-distribution\( 17 \) (although other types of differential distributions are also applicable):

\[
\rho_{cat}(\xi; \kappa, \varepsilon, \tau) = \begin{cases} 
\frac{1}{\varepsilon \Gamma(\kappa)} \left( \frac{-\xi + \tau}{\varepsilon} \right)^{\kappa-1} e^{-\xi / \varepsilon}, & -\infty \leq \xi \leq \tau, \\
0, & \tau < \xi < \infty 
\end{cases}
\]

Here \( 0 < \kappa < \infty, 0 < \varepsilon < \infty \) and \( -\infty < \tau < \infty \) although in our context the translation \( \tau \) is always positive. As in the case of \( \Gamma \)-distribution \( \kappa \) is directly related to the normalization to one of the probabilistic integral and \( \varepsilon \) calibrates the scale of the graphics. Together, the last two parameters determine the skewness \( \mu_3 = -2 \varepsilon^2 \kappa \) and kurtosis \( \mu_4 = 3 \varepsilon^4 \kappa (\kappa + 1) \). The adjustment of the green line distributions has been done by appropriately selecting \( \kappa \) and \( \tau \) (see Fig.4). The mode of the said distributions \( M = \tau + \varepsilon (\kappa + 1) \). The above fit can again be done through the least-squares approximation.
In the figures 3 and 4, we have omitted/neglected those parts where the values of the density of probability \( p \) are sufficiently small, naming the effective density \( p^\prime \). We shall note the expected return value including the additional systematic risk by \( K_a^\prime \). Then

\[
K_a = K_a(\alpha) = \int_{-\infty}^{\infty} \eta_a(x) \rho(x; \alpha) \, dx = \int_{-a}^{b} \eta_a(x) \rho(x; \alpha) \, dx
\]

If we assume, according to the fig. 3, that a risk factor cannot increase the financial returns and that the systematic nature of the risk has to affect all the possible developments of the investment in the same way, we can write (\( \Delta > 0 \) is the shift of the initial probability \( \rho \))

\[
\rho(x) = \rho(x + \Delta)
\]

Consequently, if we integrate this equation (without above approximation), we can write the following:

\[
K_a^\prime = \int_{-\infty}^{\infty} \eta_a(x) \rho(x + \Delta; \alpha) \, dx = \int_{-\infty}^{\infty} \eta_a(x - \Delta) \rho(x; \alpha) \, dx = \int_{-\infty}^{\infty} \frac{100(x - \Delta)}{\text{asset's amount}} \rho(x; \alpha) \, dx
\]

The next step is to compute the last integral. The result is: \( K_a^\prime = K_a - \frac{100\Delta}{\text{asset's amount}} \% \). Now, from figure 3 it is seen that an investor placing his resources in the same branch in the United States could expect, with the same probability, a return with \( \frac{100\Delta}{\text{asset's amount}} \% \) greater than in a country of risk. In this way, in order for the investment offer to become competitive (at risk conditions), the expected return should be compensated for by this difference.

Hence, as a correction to the classical CAPM we add the said term obtaining

\[
r_a = r_f + \beta_a (r_m - r_f) + \frac{100\Delta}{\text{asset's amount}} \%
\]

But we already know from the reflections made at the beginning of this chapter that, the assumption of translation of the density curve is unreliable. For this reason, we propose that the additional risk premium inherent to emerging economies should be calculated as a difference between the expected value obtained from the density \( \rho_{cat}(\xi; \kappa, \epsilon, \tau) \) and the expected return value according to the respective branch using the classical CAPM.

Initially, in order to quantify the risk parameter \( \alpha \), we can use one of several risk qualification systems. For example, Euromoney\(^{15}\). The last problem to solve now is how to calibrate the Euromoney points. We propose the following: after each exercise period, comparing the results of the US market with those of the risk market we could establish a gauge coefficient \( \theta \) which multiplies \( \alpha \); let the repetition of the process described in this chapter fine-tune the value of the additional risk according to the real emerging markets. Using the different values of \( \alpha \) corresponding to the diverse periods of exercise, adjusting by the least-squares approximation, we can obtain the “gaue” function \( \theta = \theta(\alpha) \).

Now, it misses just to do the replace \( \alpha \rightarrow a\theta(\alpha) \).

4. Some Considerations and Conclusions

The first thing we would like to note is the shift of the potential returns is guided by the densities’ (of the probabilities) inclines and not directly according to the expected values. But we believe that this is not a problem because the intervals of credibility are sufficiently thin to do not generate significant errors in the predictions.

In the second place, our calculation could be similar to the operating principle of a “black box”—input data (some numbers that determine the risk) and output information (the percentage of the expected profit shift). Provisionally as a place of departure we have adopted the euromoney rating risk valorisation. However, when debugging this process, based on future predictions and comparing them with the results obtained later, we believe that it is possible to arrive at a modification (for use within our model) of the euromoney (input data) system.

In order to obtain a clearer image with respect to some practical aspects, which can impact the future applications. It is worth it to take into account that there exist several important steps. Once we have developed our “own methodology” to quantify the input data for only one co-variable, we should go to the option of studying, for example, the country risk in a deferred way as a compound risk -
each of the components could be considered directly affecting a function $f$ of several co-variables. First, one must introduce in an appropriate way the perturbation parameters $\alpha, \beta, \ldots, \gamma$. This means to determine the number of the significant ones – in a given situation, not every risk (or its “components”) has the same importance. Second, they must be correctly ordered and quantized. For example, the parameter corresponding to the Exchange rate risk is easily quantifiable. On the contrary, the introduction of a Payment risk parameter shall be a lot more difficult, even if we believe in the “assistance” which the classification theorem can provide. Starting, there could be ambiguities regarding the parameters order. However, depending on the context of the problem, we are confident that in every situation after an in-depth analysis, the formulation of the problem can be adapted and, in this way, solved univocally. Thus, it is possible to obtain indications from the same parameters’ ordering.

Finally, we believe in the future corrective function of an upcoming methodology. Since the mode of obtaining of our output information, from the input risk data, is totally objective, it can be assumed that by analysing the past data, supplied in the context of the results obtained later, it will be possible to weigh if these were reliable and consequently continually improve predictions.

Acknowledgements

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Euromoney site https://www.euromoney.com/.
The most important problem of regional development in Latvia, which has been affected by globalization and demographic changes in recent decades, is significant differences in the level of socio-economic development in the regions of the country - they are the third highest among OECD countries. GDP per capita in Riga region (capital city of Latvia) was 17213 EUR in year 2016 or 135% of the national average (12760 EUR). In Kurzeme region (Western part of the country) it was 74% of the average, but in Latgale region (Eastern part) – only 51%.

Structural changes create the new jobs, mainly in cities, while in rural and remote areas employment is declining and rural areas are no longer attractive to young people – it applies to all spheres: work, culture and entertainment. Differences in economic activity have a direct impact on the size of municipal budgets, as municipalities with lower economic activity (higher unemployment, etc.) have lower tax revenues (especially income tax). The income disproportion in Latvia is partially reduced by grants from the Municipal Finance Equalization Fund to municipalities with lower tax revenues, however municipal budgets are very different in what they can invest in development and service delivery to the population. Significant differences make some municipalities much less attractive for housing choices than others, so one of the solutions is to attract finances through various funds, programmes, etc. Latvian municipalities are trying to do it, especially with European Union (EU) co-financing. According to Latvian Ministry of Finance 2016 data on impact of EU Structural and Cohesion Funds on economic growth in Latvia it was on average 1-2% per year during period 2007-2013 which can be considered as a significant contribution to the development of the country.

The aim of the study is to analyse Preili County as one of the local rural municipalities of Latgale region placed in the Eastern part of Latvia and to identify the factors contributing to the development of territory. During the National Research Programme 5.2. ‘Economic Transformation, smart growth, governance and legal framework for the state and society for sustainable development - a new approach to the creation of a sustainable learning community/ EKOSOC-LV’ (2014-2018) it was concluded that sustainability is based on smart specialization using the potential of the territory. The study created a Smart Development Index for each municipality (included resources, population, economy, governance). Preili County was on the 3rd place between 19 rural communities of Latgale region: 53 projects (about 22 million EUR) were implemented during the period 2007-2013 and more than 60 projects (about 25 million EUR) in 2014-August 2019, including 32 projects with co-financing of EU.

The study makes several proposals to local authorities, also emphasizing that effective mutual cooperation and partnership will play an important role in the development of rural areas as well as the prudent use of public investment, carefully assessing the long-term prospects for smart development in each area.

Keywords: Regional Development, Local Community, Co-Financing of European Union.

1. Introduction

Structural changes based on globalization and demographic processes not only creates socio-economic disparities between countries, but also creates disparities within countries, including changing the role and outlook for urban and rural areas. Cities have become very important in generating national economic success because the cities attract and focus resources on growth, which have become very mobile as a result of globalization - human resources (citizens, students, tourists,
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etc.), companies, investors, research, innovation, large-scale activities, etc. However, the consequences of demographic change and economic and technological developments have hit rural areas very hard. As highlighted in a study by the Berlin Institute for Population and Development 'The Future of Germany’s Villages: Between Stability and Demographic Decline’ (Kröhnert et al., 2011), structural changes tend to create new jobs mainly in urban and peri-urban areas, while in rural areas employment is declining in the outermost regions. Offering of rural space to young people is not attractive and applies to all areas: culture, entertainment and job opportunities. In rural areas, jobs are mainly in agriculture and traditionally in agriculture the wages of the employed have been lower than the national average. More and more rural young people want to study - they go to cities and most of them do not return to the countryside. Number of rural population also decreases due to technological development - the same amount of work requires significantly less labour than a few decades ago.

Due to population decline tax and tax revenues are decreasing in many municipalities. At the same time, costs for utilities and public services (such as drinking water supply, waste collection, etc.) are rising, especially with rising technical standards and due to environmental requirements. This significantly increases the cost of providing services, additional funding and raises the issue of efficient use of public investment. One of the solutions is to attract financing through various funds, programmes, etc., which are carried out by Latgale region municipalities with their means, especially with the help of European Union co-financing.

Significant differences in the level of socio-economic development in the regions of Latvia are the 3rd highest among OECD countries. GDP per capita in Riga region (capital city of Latvia) was 17213 EUR in year 2016 or 135% of the national average (12760 EUR). In Kurzeme region (Western part of country) it was 74% of the average, but in Latgale region (Eastern part) – only 51% (Regionālās, 2019).

Data of Figure 1 show GDP per capita in statistical regions of Latvia – during the period from 2000 until 2016 GDP in Riga region increases from 4849 to 21078 EUR per capita, but in Latgale region – from 1424 to 6516.

![Figure 1. GDP in Statistical Regions of Latvia, EUR per CAPITA](chart)

Source: Prepared by author based on data of Central Statistical Database of Latvia

One of the main reasons for the differences in the level of socio-economic development is the low level of entrepreneurial activity and the preconditions for raising it in the regions. These differences in economic activity have a direct impact on the size of municipal budgets, since municipalities with lower economic activity (higher unemployment, etc.) have lower tax revenues (especially personal income tax). The income disproportion is partially reduced by subsidies from the Municipal Finance Equalization Fund to municipalities with lower tax revenues (90 of 119 Latvian municipalities received grants in 2013, while in 2019 more - 107), however, even after receiving the subsidy, municipal budgets are very different. Estimated revenue per capita in 2013 significantly differs 6 times
from the lowest level of 202 EUR in Riebini County (Latgale region) to the highest – 1207 EUR in Garkalne County, which is located near Riga - the capital city of Latvia.

In 2019, the difference is no longer so significant – the lowest level is 380 EUR in Aglona County (Latgale region) and the highest is 584 EUR in the same - Garkalne municipality. So municipalities have very different levels of resources to invest in developing and providing services to citizens – most municipalities lack the means to ensure quality services and their development - this applies to both development centres and other areas. Significant differences in service provision make some municipalities much less attractive for housing choices than others.

The aim of the study is to analyse Preili County as one of the local rural municipalities of Latgale region placed in the Eastern part of Latvia and to identify the factors contributing to the development of territory.

2. Data and Methodology

Research on regional development issues is increasingly appearing in contemporary economic literature and scientists try to find different ways and instruments as tools for the territorial development. Renewing the successful European economic growth model depends on its ability to reduce the increasing productivity gap between ‘frontier regions’ and other parts of the EU (Bachtler et al., 2017). There are huge differences in technological potential between countries and between regions in Europe (Balland et al., 2019). Structural changes in innovation patterns have longer term consequences on economic dynamics – it is necessary to progress and to renew regional economic and innovative structures, as advocated by the smart specialization strategy (Capello, Lenzi, 2019). Reasons and impact of Smart Specialization Strategy is analysed in coherences of regional innovative capabilities (D'Adda et al., 2019). These and other scientific studies can be the basis for development decisions.

During the Latvian National Research Programme 5.2. ‘Economic Transformation, smart growth, governance and legal framework for the state and society for sustainable development - a new approach to the creation of a sustainable learning community/ EKOSOC-LV’ (2014-2018) it was concluded that sustainability is based on smart specialization using the potential of the territory. One of today’s regional development paradigms – the most important driver of the development is the human being. Using data on economically active statistical units of counties, all municipalities of Latvia were divided into groups. The main conclusion was – a smart and sustainable territory development takes place in the areas with: 1) an innovative and knowledge-based economy; 2) educated, active, creative population; 3) sustainable use of natural resources; 4) high-quality local management, which actively involves inhabitants; 5) developed IT infrastructure and skills (Šipilova et al., 2017; Jermolajeve et al., 2018).

A quantitative assessment was based on scientific and practical experience, taking into account the spatial and socio-economic specifics of development of the regions and rural municipalities of Latvia that demonstrated development levels and growth rates of the municipalities in combination with regional socio-economic disparities. A smart development index (SDI) was created, included four dimensions: Resources, Population, Economy, Governance (Administration or Management).

SDI shows the special features of smart development of rural municipalities. Resources: effective use (tended agricultural lands, Rural Support Service expenditures); available resources (forestland, the amount of mineral resources); infrastructure (road network density). Population: knowledgeable (higher education, primary sector employees); skillful (the long-term unemployed); active (the number of NGOs). Economy: innovative (the proportion of enterprises in the total number of companies, turnover, the number of employees); active (the number of the self-employed). Governance: competent (the amount of funding attracted); inclusive (electoral activity); modern (e-index changes and next generation network).

SDI divided 19 municipalities of Latgale region into two similar groups: 10 municipalities had positive index values and 9 municipalities – negative index values. In 2014, 62.31% of the population lived in the group of municipalities with positive index values.

Latgale region is the least developed region in Latvia. The EKOSOC-LV research results identified a resident-focused scenario as the most important factor for sustainable development, the attraction and retention of residents and the use of their potential in municipalities and in the entire region.
3. Research and Discussion

According to data of Latvian Ministry of Finance (2016), an impact of EU Structural and Cohesion Funds on economic growth in Latvia was on average 1-2% per year during period 2007-2013 and it can be considered as a significant contribution to the development of the country. Latvia is a beneficiary of significant European Structural and Investment Funds support and can receive up to EUR 5.6 billion until 2020. This represents around 3% of GDP annually over the period 2014-2018 and 65% of public investment (it is defined as gross fixed capital formation + investment grants + national expenditure on agriculture and fisheries). By 31 December 2017, an estimated EUR 3.1 billion (55% of the total) was allocated to projects on the ground. This has paved the way for supporting around 84 thousand additional households with broadband access of at least 30 Mbps (Megabits per second); 1145 restructured or modernized farm holdings; 57 thousand people received European Social Fund support, included 16 thousand of long-term unemployed etc. (Regionālās, 2019).

Preili County is located in Latgale region, consists of Preili town and 4 rural territories, the distance from the administrative centre to Riga (the capital of Latvia) is 203 km. Preili municipality is on the 15th place by area (364 km²) and the 7th place by population (9.2 thousand) in Latgale region (19 municipalities in total). According to the Territorial Development Index, Preili municipality is ranked the 1st in Latgale region and the 81st in Latvia (119 counties in total), despite the negative data of State Regional Development Agency (SRDA) in 2019 (-0.620).

According to the Assessment of the Attractiveness of the Investment Environment in 2016, Preili County was on the 3rd place in Latgale region and the 39th in Latvia (calculations of SRDA by 32 criteria). The two highest scores were ‘Spatial Planning and Land Use’ and ‘Quality of the Living Environment’. In infrastructure, the most attractive indicators for attracting investment were: ‘Access to Natural Gas’; ‘4G Network Coverage’; ‘Electricity Supply’; ‘Centralized Water Supply and Sewerage Services’ and ‘Business Support Unit’ (SRDA).

![Figure 2. Financing of Preili County Projects 2014-2020 (data 01.09.2019)](image)

**Source:** Prepared by Author Based on Information of Preili County, 2019.

According to the typology analysis of rural areas, Preili municipality is in a high-level group of municipalities, but with low rate of development. Smart Development Index is 6.002 or on the 3rd place in Latgale region (cities were not included in the study) (Jermolajeva et.al, 2018).

Budget of Preili County is 11.45 mill. EUR (2019), including 2.02 mill. EUR grant from the Municipal Financial Equalization Fund, but municipality cannot do the necessary works. It is the main reason to attract the co-financing – mainly from the European Union. In total 53 projects (about 22 mill. EUR) were implemented during the period 2007-2013 and more than 60 projects (about 25 million EUR) in period 2014-August 2019, including 32 projects with co-financing of EU. As a result, the new infrastructure will be created in cooperation with entrepreneurs and at least 46 new
workplaces will be created in 2020-2021, schools will be modernized, the streets and roads will be renovated etc. (Unpublished, 2019).

The data in Figure 2 shows the financing of projects in Preili municipality for the period 2014-2020 (situation as at 01.09.2019). The main projects are: (1) Development of business environment infrastructure in Preili County - construction of new street and construction of industrial territory (5.54 mill. EUR); (2) Development of the business environment infrastructure of the Preili County and surrounding areas - street rebuilding and rotation circle construction (1.58 mill. EUR); (3) Improving the business environment and stimulating investment in Preili County - construction of storage, industrial building, square and utilities (3.47 mill. EUR); (4) Reconstruction of municipal roads in rural territories (1.71 mill. EUR); (5) Improving the energy efficiency of two municipal buildings (2 mill. EUR); (6) Improving and modernizing the learning environment in two schools of general education (2.42 mill. EUR); (7) Reconstruction of Preili Castle (0.6 mill. EUR; (9) Measures to promote local community health and prevent disease in Preili County (0.12 mill. EUR). Preili municipality is also an active participant of several cross-border cooperation projects, for example, ‘Creation of network of family Digital Activity Hubs for wellbeing and education support in Eastern Aukštaitija and Southern Latgale’ and ‘Conservation of biodiversity in open wetland habitats of the LV-LT cross-border region applying urgent and long-term management measures’ (Interreg V-A Latvia-Lithuania).

The attracted finances are used both - in Preili town as a county centre (urban territory) and in rural areas, it shows also the high level of knowledge, interest, activity and capacity of municipal specialists. The result of the projects implemented in Preili municipality could be the fact that 24 children started attending educational institutions in September, 2019 - the increase in the number of children is the first time in recent years. As the birth rate is very low, the increase has actually occurred at the expense of families moving from other areas to live in Preili or attending schools in this territory.

The SWOT analysis of the Development Programme of Preili County 2018-2024, shows that in overall there are more strengths and opportunities than weaknesses and threats. The Municipality has a good chance of attracting investment and setting up new production units that will create jobs and people will have good possibilities for education, social security and general well-being.

4. Conclusion

Overcoming regional disparities as a key issue for regional development requires active, knowledgeable and creative people capable of finding and effectively using financial resources. This is in line with today’s regional development paradigm - the most important driver of the development is the human being. Latgale region is the least developed region in Latvia, but a resident-focused scenario is the most important for sustainable development, the attraction and retention of residents and the use of their potential in municipalities and in the entire region.

The effective urban-rural interaction will be crucial for the development of rural areas and a prudent use of public investment, with careful consideration of the long-term prospects for each territory’s development.

There is a need for a broader territorial approach to the allocation of EU funds in investment planning and delivery to local governments - to base investments on identified needs in the region, allowing for complex, cross-sectoral and time-coordinated investments, with a more accurate assessment of the ability of specific territories (professionals) to implement projects.

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DETERMINANTS OF THE PROFITABILITY AND POSTHARVEST LOSSES ENCOUNTERED BY FRESH TOMATO TRADERS IN LAGOS STATE

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Abstract

Nigeria is the largest producer of fresh tomato in Sub-Saharan African but also the second largest importer of tomato-based products due to the demand gap and low supply of fresh tomato which mostly due to the high postharvest losses encountered in the tomato market. Therefore, the study looks at the profitability and the postharvest losses encountered by the fresh tomato traders in Lagos State, Nigeria. Specifically, the work analyzes the socio-economic characteristics of the traders, the average level of losses encountered by the traders, their profitability as well as factors affecting both the profitability and level of tomato losses. Also, the challenges encountered by the fresh tomato traders were highlighted in the study. A multi-stage sampling technique was employed. In the first stage, Lagos State was purposively selected due to its possession of the largest fresh tomato markets and 245 traders were randomly selected in the second stage. This included 82 wholesalers and 163 retailers from fourteen major markets in the state. Gross margin, regression analysis and descriptive statistics were employed based on the objectives to make useful inferences. The findings revealed that 72% of the respondents were between 30-49 years old and only 9% had access to access to credit services. Also, the overall monthly income of 66.5% of the traders were below N40,000 and only 44% had access to the media. Tomato marketing was observed to be a profitable venture with an average profit percentage of 105% of the total cost gained per month. However, the tomato losses faced was averagely 22% for those who made use of woven baskets in packaging their produce and 9% for those who made use of Returnable Plastic Crates (RPCs). Also, the sex, years of schooling, years of tomato learning, number of income sources and packaging container used significantly affected the level of profitability in tomato marketing. Furthermore, the number of associations belonged to, the efficiency of current container in reducing losses, the distance to source of tomatoes, household size and the use of plastic crates significantly affected the level of tomato losses faced by the trader. The major challenges encountered by the tomato traders includes low capital, high competition, inability to access adequate market, high tomato losses and poor knowledge and training on the tomato business. In conclusion, the tomato trade in Nigeria is highly profitable but constrained by the level of losses as well as other challenges highlighted in the study. Therefore, the study recommends that private and public institutions should help in providing accessible credit services to the traders and reducing tomato losses through the provision of adequate packaging containers. Also, an inclusion of a multi-stakeholder approach that brings together major stakeholder including the leaders of the market associations to develop policies that would help the tomato traders as a whole.

Keywords: Fresh Tomato Traders, Profitability, Tomato Losses.
ANALYSIS OF SMALLHOLDER BEEF FARMERS’ PARTICIPATION IN FORMAL MARKETS IN NGAKA MODIRI MOLEMA DISTRICT, NORTH WEST PROVINCE, SOUTH AFRICA

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Abstract

Agriculture plays a crucial role in developing countries as it is a major source of income in rural households. Small scale farmers are often located in rural areas and they can be defined in diverse ways depending on perspective, nation and ecological zone and this explains interchangeable use of the term smallholder with small-scale, resource poor and peasant farmers. Smallholder farmers have cattle numbers that are significant and if they manage them well, they can contribute to the nutrition and food security at a household level and, add to the national economies. However a number of authors expressed the concern over the limited contribution of livestock that the smallholder farmers own, especially cattle towards their household and economies of the nation. These farmers often struggle to improve their standards of living because they lack access to formal markets and therefore end up selling their cattle to the buyer at whatever price dictates. Access to markets is an imperative requirement for small scale farmers thus having access to inputs is not of much benefit if they are unable to access profitable markets. In order to increase market participation by small-scale farmers, it is essential to identify variables that influence market access. This paper aims to identify factors that influence smallholder beef farmers’ participation to formal markets in Ngaka Modiri Molema District, North West Province, South Africa. The smallholder beef producers in the study area do not make use of output markets efficiently due to a number of factors thus marketing constraints that limit their involvement in formal markets are identified in this paper. Simple random sampling was used to select 109 smallholder beef farmers in the District. A structured questionnaire was used to collect data from respondents. Data was analyzed with SPSS version 25 using frequency count percentages, mean and standard deviations. A logistic regression model was used to investigate constraints that influence smallholder farmers’ participation to formal markets.

Empirical results show that farmers’ participation in formal markets is significantly influenced by age of farmers, contact with extension agents, access to market information, infrastructure, contact with extension agents, formal contractual agreements and training. This paper recommends that Government should (in collaboration with relevant stakeholders) design, implement and, improve existing initiatives to foster try into formal markets by smallholder beef farmers.

Keywords: Smallholder, Beef Farmers, Formal Markets, Participation, Market Access.
IMPACT OF AGRIBUSINESS TRAINING PROGRAMMES ON YOUTH EMPOWERMENT IN NIGERIA: THE CASE OF FADAMA GUYS PROGRAMME

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Abstract

Among the potential strategies to reduce the high dependency of young people on white-collar jobs as well as create employment opportunities in the non-formal sector, agripreneurship is increasingly been recognised as a valuable means of creating sustainable employment and improving the livelihood of young people. Based on this, stakeholders have come to support agripreneurship in recent times by organizing agribusiness training programmes which specifically targets young people. Despite the numerous existing agricultural interventions, there is a dearth of empirical evidence on what worked well or what did not. It is for this reason that this study investigated the impact of agribusiness training programmes on youth empowerment in Nigeria taking the case of Fadama Graduate Unemployed Youths and women Support (GUYS) programme conducted in 2017. Empowerment was measured with 15 indicators extracted from the scanty literature found on youth empowerment (see International Labour Office, 2018 and; Muiruri, 2015). The indicators were subjected to Principal Component Analysis (PCA) in order to extract the essential components required to construct a non-standardized index which became the outcome variable. A total of 977 respondents comprising of 455 participants and 522 non-participants were sampled across three states in Nigeria. Data were analysed using the Propensity score matching (PSM) procedure. Model results show that age, years of formal education, ownership of agribusiness venture, intention, youth perception about agribusiness training were factors which positively and significantly influenced youth participation in the programme while gender, household size had a negative and significant influence on participation. For the purpose of comparison, this study adopted the nearest neighbour (NN), kernel-based (KB) and caliper matching estimators in matching the treated and the control units. However, the best matching algorithm based on our analysis was the NN estimator which has the lowest pseudo r-squared of 0.005 after matching, mean standardized bias of 4.1 percent and large number of matched sample with only 4 percent lost to common support restriction, indicating enough overlap for the matching exercise.

After controlling for all confounding factors, the impact estimate showed that participation in the programme led to about 11.28 per cent increase in the youth empowerment index score which implies a positive change in the economic status and livelihoods of the youths who participated in the programme. Also, the result of the sensitivity analysis on hidden bias showed that the critical level of gamma (γ) was between 2.90 and 2.95 which implies that for the impact estimates to be nullified, the unobservable variable would have to increase the odds ratio of participation by up to 195 per cent. This led to the conclusion that even large amounts of unobserved heterogeneity would not alter the inference about the impact estimate. On this note, the study recommends that programmes such as the case study should be encouraged and invested in as it can inspire youths to engage in agribusiness thereby, reducing the rate of youth unemployment as well as contributing to empowerment.

Keywords: Agribusiness, Youth Empowerment, Youth Unemployment, Agribusiness Training.
THE IMPACT OF R&D INCENTIVES ON R&D OUTPUT: A PANEL COUNT DATA ANALYSIS

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Abstract

This study aims to explain the effects of R&D incentives on patents, assuming an innovation output. Five high-tech, five low-tech sector data were included in this study according to the NABS 2007 sector classification. Since the data used in this study is classified in different structures (eg Nace Rev.2 for R&D expenditures data and IPC V.8 for patents data), a conversion table has been created by authors for Nace Rev.2 and IPC V.8 codes corresponding to the NABS 2007 classification. According to the conversion table of the sectors we created, we applied the Panel Count Data model as the econometric method for 11 European countries in which we can access their data. As a result of the analysis for 11 European countries, we conclude that public R&D incentives have different effects on high-tech and low-tech sectors. For example, in the space research sector, which is one of the high-tech sectors, public R&D incentives at the current level has a positive effect on patents; other three high-tech sectors (transport and communication, energy, industry and technology) are negatively affected by public R&D incentives. But what are the consequences if public R&D incentives, which have a negative impact on patents, are increased? To answer this question, we constructed the econometric equation as a polynomial equation. The results showed us that these 3 high-tech sectors, which are negatively affected by the current public R&D incentives, will be positively affected by these incentive if these incentives are increased. In addition, another finding is that in low-tech sectors, the effect on patents is mostly come from R&D expenditures.

Keywords: Government Policy, R&D Incentives, Innovation, Patent, Panel Data Analysis.
Abstract

In the early 2000s the potential benefits of unmanned aerial vehicles, which were first tested at the beginning of the 1900s but whose effectiveness was not understood, were discovered and major technological advances were made in this field in the world. After the 1980s, the production of UAVs with different characteristics such as imaging, transportation and disinfection by various countries has achieved a great growth in the UAV sector. With the widespread use in different sectors, Drone production has achieved a significant growth momentum. Market research shows that the UAV sector will grow by 15-20% every year in the next decade. This growth will have a significant and positive impact on the national economies. The UAV sector, evaluating separately from the aviation sector, has created its own economy and it affects the national economy positively. The research starts with explaining the development of the UAV sector, indicators of UAV economy in the world and Turkey were investigated. After, the development of UAVs and the status of the UAV sector in United States, European Union, Britain, China, Japan, Russia, India and Turkey is discussed separately. The main aim of this research is to contribute to the literature in Turkey about the economic outlook of unmanned aerial vehicles called as “Drone economy” in the international literature. It has been found out that diversification of usage areas of UAVs and adoption of technological development by commercial enterprises contribute to the formation of “Drone economy”. The cost-effective purchase and use of UAVs has triggered large companies such as Tesla and Google to invest in this area. At the same time, many small and large enterprises are registered with national aviation organizations to obtain business authorization in this field. The activities in the UAV sector can contribute to the GDP of all countries, because Drones create and continue to create new employment areas. In many countries research and development activities are directed to the UAV sector and thus Drones will contribute to the development of robot systems. The use of UAVs will lead to systematic changes in different sectors and armament of UAVs has great international importance in military terms.

Keywords: Drone Economies, Unmanned Aerial Vehicles.

1. Introduction

Small aircraft, in terms of size and weight, which has no people in it for control or travel purposes and can fly via remote control or a pre-loaded flight program, is called unmanned aircraft. International Civil Aviation Organization classifies unmanned aerial vehicles into two categories as military and civilian. According to this classification; UAVs used as armed for reconnaissance and assault purposes are military; UAVs used for scientific, imaging or hobby purposes are considered civil (ICAO, 2011). In international literature, the name “Drone”, which is given to remotely controlled aircrafts used in the military, has been named as UAV “Unmanned Aerial Vehicle” with the increasing use of civil unmanned aircrafts (Kahveci& Can, 2017:512). In the aviation sector, the increase in the production and sales enterprises in the UAV area and the investments made by large companies led to the formation of the UAVs and the economic activities in this sector to be called “Drone Economy”.

In this study; the development of UAV sector is explained, and indicators of “Drone Economy” in the world and Turkey were investigated. The current status of UAVs market in the world, by terms of the production and use of UAVs, in leading countries such as United States, European Union, Britain, China, Japan, Russia, India, Malaysia and Turkey has been investigated separately. However, due to
the fact that the shared reports and sources about countries cover different years and different data, a standard order could not be followed in the data used in the study.

2. Development of Unmanned Aerial Vehicles

The importance of UAVs, whose inventions are considered to be in the middle of the 19th century, played an active role by advancing in World War II, and by their contribution to issues such as reducing pilot losses, exploration and intelligence during the Cold War was recognized widely. In addition to understanding its military importance, UAVs, which are also used in hobby flights and civil aviation activities, have also been used by NASA in space studies. As UAVs develop, usage areas have diversified and diversified usage areas have increased the use of UAVs, leading to significant developments in the UAV sector (Torun A., 2017: 2).

Advancing technology has made it easier to control UAVs and modern design of UAVs enabled them to be used by everyone as easily accessible aircraft in daily life. Due to the technological advancement, the use of smart phones and tablets instead of the control units in UAVs and the fact that flight operations can be provided with GPS and Wi-Fi receivers have reduced the UAV production costs considerably (Colomina et al., 2014). Thus, the production of low-cost, functionally available UAVs has increased, and its use has become widespread.

3. UAV Sectoral Outlook

Nowadays, the majority of the investments usually made for UAVs are for military activities. UAVs are utilized in audit, surveillance, intelligence, chemical, biological, nuclear and radiological activities. Other areas where UAVs are used in the military field are screening, instantaneous general target setting, general surveillance in peace time, surveillance of enemy activities in wartime, instant weather forecasting, routing in indoor weather, direction finding, enemy tracking, radio signal transmission, aircraft runway security, damage detection studies, if necessary, can be specified as the use of radar (Gupta et al., 2013).

In addition to the development of UAVs in the military field, there has been a development in the field of civil aviation also. The UAV industry has developed rapidly, especially with the US law, which can be considered as deregulation in the field of UAV, allowing for the use of UAVs in civil aviation as well as in military areas. The use of UAV in many areas is becoming widespread; commercial use, scientific studies, university-laboratory research, search and rescue activities, applications related to public safety, meteorology studies, film industry, environmental-nature studies, aviation photography, mining activities, the use in agricultural fields and so on (Yiğit et al., 2018: 11).

The top five sectors where UAVs are found to be the most common application areas on a global scale are; real estate and construction, photogrammetry (aerial measurement), film / aerial photography, agriculture and aerial monitoring (tracking) activities (Torun A., 2017: 2).

3.1 Economic Outlook of the UAV Sector

It is stated that UAV sales in the rapidly growing UAV sector have not yet reached the expected level according to some scientific studies in the literature. According to the estimates made by FAA, it is stated that UAV sales in the global market will reach 2.7 billion in 2020 and civil UAV production will increase from 2.7 billion to 10.9 billion in 2025 (Turza, 2014: 334). In the light of these data, it is estimated that the UAV sector will grow between 15-20% annually on average and more than 100% growth over a 10-year period.

3.2 Economic Outlook of UAV Sector in the World

Public concern about the use of UAVs is subdued as benefits from UAV use are seen. Thus, the global UAV market continues to experience explosive growth every year. With this growth at the moment, 47% of the world UAV market is classified as civilian UAV, 24% is used for commercial purposes and the rest is classified as UAV for consumer purposes. With the gradual decline in UAV production costs and the inclusion of new players in the global market, including the minimum
segment, UAV costs are expected to fall between 7-27%. This will have a catalyst effect on market growth (J’son & Partners, 2017).

The countries which are active in the production of UAV and Unmanned Combat Aerial Vehicle (UCAV) in the world and the European Union have been evaluated in terms of economic outlook and expectations. USA, UK, China, Japan, Russia, India, Malaysia and Turkey are the only leader countries in the UAV and UCAV by terms of production and investments in this area.

3.2.1 USA

In 2012, the federal government commissioned the Federal Aviation Administration (FAA) to integrate UAVs into the National Airspace System (NAS). In the research conducted by FAA, it is stated that 90% of UAVs used in USA are used for agriculture and public safety and these two markets are potential markets for UAVs (Jenkins & Vasigh, 2013: 2).

The economic impact associated with the integration of UAVs into NAS was more than $13.6 billion in the first three years of integration. According to forecasts, the economic impact will grow and may be more than $82.1 billion between 2015-2025. Integration into NAS has created more than 34,000 production jobs in the first three years and is expected to create more than 70,000 new jobs. By 2025, total job creation is estimated to be 103,776. It is estimated that the US tax revenue from UAVs will be more than $482 million in the first 11 years (2015-2025) of integration (Jenkins & Vasigh, 2013: 4).

3.2.2 European Union

The use of UAVs in many sectors creates significant economic benefits and this should be taken into consideration. If the market of all countries in the European Union is taken into account, the growing UAV market represents approximately EUR 2 billion in annual turnover. The UAV market is expected to represent approximately EUR 10 billion by the end of 2030 and EUR 15 billion by the end of 2050.

The increase in the use of UAVs has also been influenced by their use in different areas. According to the estimates, 100,000 UAVs are expected to be used in sensitive agricultural activities, 10,000 UAVs are used in the energy sector within the scope of infrastructure works, 100,000 UAVs are used for transportation of emergency medical supplies and medical services, and 50,000 UAVs are used by public security agencies such as police and fire brigade. In addition to these, with the developing technology, the studies for the use of UAVs in border and maritime safety, international airspace, cargo transportation and long-term passenger transportation are continuing rapidly.

With the development of the UAV sector and the use of it in different sectors, the European air traffic is expected to increase by 50% in 20 years. In addition, it is expected that by 2035, UAVs will directly create employment for 100,000 people and will have an economic impact in excess of 10 billion euros annually by providing support to indirect employment for 100,000 people (SESAR, 2016).

3.2.3 United Kingdom

The UAV sector is expected to grow steadily in the UK by 2030. It is estimated that the use of UAV will lower costs and all sectors that use UAV will achieve significant savings. The UAV sector is expected to contribute £16 billion in net cost savings to the UK economy.

It is anticipated that the resulting savings will contribute to the GDP growth for many sectors by causing a 3.2% increase in multi-factor productivity. According to these estimates, the increase in the sectoral basis will be £8.6 billion in construction and manufacturing; it is expected to be £7.7 billion in wholesale, retail trade and food services, £11.4 billion in the public sector (including defense, health, and education), and £4.8 billion in the media and telecommunications sectors. In general, the UAV sector is expected to generate £42 billion in GDP by 2030.

The increase in the use of UAVs in daily and commercial life may initially make some workforce tasks unnecessary, but over time, the cost savings, efficiency, and gains in consumer demand will generate new jobs. This shows that UAVs will have a transformational effect on the way we work and
Economic Outlook of Unmanned Aerial Vehicles...

live. It is expected that in 2030 a total of 76,000 UAVs, 27,500 of them is expected publicly owned, are expected to operate in the UK's airspace, will generate 628,000 employees (Pwc UK, 2018).

3.2.4 China

In 2017, the UAV sector in China generated $ 2.7 billion in revenue, demonstrating that it is an important country in this sector. The UAV sector is driven by a single company in China. Da Jiang Innovations has more than 70% of the global market share, and in the meantime is also the largest UAV producing company in the world. Apart from DJI, there are 1200 enterprises operating in the UAV sector in China (FAI, 2018). The low-cost hardware and software design, production and logistics chain are key elements, which comes to mind while considering the Chinese economy, make a major contribution in order to make China leader in the UAV industry.

One of the main reasons for the growth in the UAV sector in China is the widespread use of UAVs for hobby purposes as well as the creation of logistics and supply chains. In 2017, 3 million hobby UAVs were launched with a 67% growth jump (FAI, 2017).

By 2025, the total UAV market in China is expected to reach 75 billion yuan. This market is also expected to be divided into 30 billion yuan for consumer commercial activities, 20 billion yuan for agricultural and forestry activities, 15 billion yuan for security. In the 10-year period, a 300% increase is expected in UAV sales (SCMP, 2017).

3.2.5 Japan

In Japan, the size of the UAV market is estimated to increase from 3 billion yen to 100 billion yen in 2030. In Japan, UAV software and services production are mainly targeted instead of hardware. 5% of the estimated revenue is expected from the hardware and the rest is expected to turn up from software and services.

Although there are 20 major UAV manufacturers in Japan, there are only a few businesses that can operate commercially. Japan's commercial UAV market is estimated to reach 18.6 billion yen by 2020. With the occurrence of expected growth, the market is estimated to reach 44 billion yen in 2025 and 100 billion yen in 2030 (EU Japan, 2016).

3.2.6 Russia

At the end of 2018, Russia's share of the UAV sector in the world market was 2%. But, in military terms, this share increases to 15%. The Russian UAV sector is characterized by military UAV manufacturers dominating the market. With its technological infrastructure and investments in Russia, the UAV sector, which is very suitable for development, is being blocked due to legal restrictions.

In 2018, the Russian UAV market was realized as 163 million dollars, and it is expected that the market will grow 1.5 times by 2020 (J'son & Partners, 2018).

3.2.7 India

The growth of the UAV sector in India has achieved a similar acceleration with other countries and global scale. The Indian UAV market is projected to have a combined growth rate of 18% in terms of revenues in the period between 2017-2023. Although India has focused on the long-range segment in UAV production, it has been trying to grow in the field by producing medium-range and small UAVs in recent years.

India holds 22.5% of the world's UAV imports and ranks highest among the importing countries. Although India's current priority in UAV production is armed military UAVs, it is estimated that by 2021, the civilian market will reach an equal level with the military market and reach a total volume of 900 million dollars (Pwc India, 2017).
3.2.8 Malaysia

In 2018, Malaysia’s UAV industry grew by 30% with $500 million in 2018 due to positive acceptance of consumers’ use of UAVs and increasing market interest. The compound annual growth rate is expected to be over 50% in 10 years by 2028.

The use of UAVs in agriculture increased by 2000% between 2015-2018 and has played an active role in recognizing the potential for several billion dollars of estimated sectoral capacity in Malaysia (Theedgemarkets, 2017).

3.2.9 Economic Outlook of UAV Sector in Turkey

Considering the UAV market worldwide, the occurrence of sectoral growth with the increase in usage areas of UAVs also applies to Turkey. The use of UAVs in Turkey especially in mining, mapping, construction, energy, agriculture and real estate sectors has become widespread. In Turkey, by the year 2018 the UAV market size has reached $30 million. With the technological acceptance, it is known that the number of devices registered to the DGCA is 25 thousand. The use of UAVs in Turkey has come to the fore in terms of both hobbies use and for commercial purposes. As UAVs are finding more space in corporate and industrial applications, the corporate market size is expected to grow by 2-3 times in 2019.

While the developing sector creates structural changes in many commercial purposes, it leads to the emergence of new professions such as UAV piloting and UAV technology software. While UAV pilots become particularly popular in job advertisements, it is known that there are 33,000 UAV pilots licensed out of 50,000 individuals registered to DGCA. According to the 10-year forecasts, this number is expected to be increased and higher employment will be provided by the sector (DGCA, 2018).

4. Conclusion and Evaluation

The discovery of the functional benefits of UAVs paved the way for its use in many areas. The functions of such UAVs such as transportation, imaging, measurement and analysis can help many sectors. Especially with the low cost of UAV production and usage of it creates significant cost savings in the sectors it is operated, UAVs have widely become an integral part of commercial life. With the large-scale use of UAV, positive economic consequences and effects have emerged. Thus, UAVs formed a sector economy. Economic impacts of UAVs have been investigated in many areas such as costs, commercial uses and sectoral returns.

The UAV sector, which had an economic impact in the 2000s, continues to increase its growth momentum so far. The expected growth rate in the global UAV market according to 2015-2025 expectations is more than 100%. Although it varies from country to country, its growth rate is not expected to fall below 10% and is expected to be in the range of 15-25% on an annual basis. The results that can be drawn with this research are as follows;

- Activities in the UAV sector can contribute to the GDP of countries,
- The UAV sector has created and will continue to create new employment areas in countries,
- Many countries have increased their investments in the UAV sector,
- Usage areas of UAVs become widespread,
- UAVs create cost savings in different sectors,
- Unlike aircraft production, China is the leading country in UAV production,
- Activities of Turkey’s domestic UAV production is continuous.

In the literature studies conducted in our country, it is seen that there are studies on the technical features and legal processes of UAVs. This study will be able to give an idea about the future UAV economy studies.
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Abstract

After the three major industrial revolutions that radically changed understanding of production today, digitalization in production has begun with the fourth industrial revolution, with the great change effect of technology on production systems. Fourth industrial revolution or Industry 4.0 referring to literature, is aimed to integrate products, machines and production systems. This integration will be provided with the use of the Internet and new information technologies in production, and also with the implementation of Cyber Physical Systems (CPS), Internet of Things (IoT), Smart Factories and other Industry 4.0 components. For Industry 4.0, where developed countries started, it appears that government and industry collaborators have quickly prepared road maps and are beginning to apply some of the leading companies in their sector. If it is considered that strategic issues such as technological infrastructure, human resource policies, production digitization, technology levels of production systems, it can be said that implementing Industry 4.0 in our industry may be difficult by this time. However, the problems need to be resolved quickly and the manufacturing industry's Industry 4.0 pilot applications must begin. In this context, within the scope of the study, answers to the following questions will be taken in the questionnaire study conducted by our country's manufacturing companies; “What is the use of technology in the process from product and service design to production?”, “What is the use of information systems in processes such as planning, production, estimation, supply chain?”, “What is the intensity of analyzing and evaluating customer data in design, engineering and manufacturing processes?” and “What is the intensity of technology use in the process from production to delivery of products and services to the customer?”. The results will be interpreted as whether the country's manufacturing industry is ready for transition to Industry 4.0.

Keywords: Industry 4.0, Fourth Industrial Revolution, Cyber Physical Systems, Internet of Things, Smart Factories.

1. Introduction

Nowadays, production systems and technologies are in a rapid change. This change leads to the change of traditional production as well as physical change. Technology has become the most important topic of modern production systems. By this way, enterprises, governments and production policy makers have great roles in the development or renewal of existing production technologies.

All industrial revolutions have begun with technological developments in history. The discovery of water and steam powered machines, the division of work and the transition to mass production, the introduction of software and programmable logic control (PLC) into the production systems triggered the industrial revolutions before fourth industrial revolution. The new industrial revolution is triggered by the Internet and its rapid development. The Internet provides the communication between people and machines (Brettel et al. 2014). The widespread use of the Internet provides digitalization in all areas. Therefore, production systems also enter the digitalization process.

New technological systems, which have been used in production in recent years, change the industrial appearance. Beyond the traditional industrial systems, smart factories and smart machines reveal the concept of Industry 4.0. The concept of Industry 4.0 is a set of technological developments that affect and change products and processes, integrate the digital and physical world in production and enable the production of smart products. Product demands are changing rapidly, more functional
and comprehensive products are being demanded by customers together with producing smart products (Nunes et al. 2017).

New emerging technologies also change the education system. Only the well-educated labors according to new production systems can use these technologies, so the human factor plays an important role in future production systems. For this reason, companies should pay attention to human resources management and strategies, and focus on the development of the qualified workforce (Benesova and Tupa, 2017).

Increasing data volume with new technologies also rise demand for the cloud system. If it is analyzed in information technology, there will be a need for expert personnel who will implement the cloud system in the enterprises. Also, cloud system engineers and experts providing technological integration for companies will be working in the management staff. It means that, after the transition to the cloud system, information systems personnel qualifications will change and they will have to be more qualified (Benesova and Tupa, 2017).

2. Literature

2.1 Definition of Industry 4.0

Announcing its name at the Hannover Fair in Germany for the first time in 2011, Industry 4.0 has been a considered subject by academics, practitioners, politicians and government officials worldwide since then. Kagermann (2013) defines Industry 4.0 as a new trend for automation and data transfer in manufacturing technologies. Cyber physical systems (CPS), internet of things (IoT), cloud systems and smart factories are the main components that make up the concept of Industry 4.0. To summarize the industry 4.0 system briefly; by using cyber physical systems in smart factories, digital copies of real objects are created in the virtual world. Products are in communication with each other and with users with internet of things. Also, they are coordinated. Thus, production and process monitoring in the cyber physical system will be made using the internet (Sung, 2017).

Industry 4.0 is seen as the most comprehensive industrial revolution. Because starting from the economic issues, including social and environmental issues that affect our daily life takes the field of new industrial revolutions influence (Garbie, 2016). Industry 4.0 can also be defined as a combine of every stage of production in enterprises in the traditional production processes with internet and information communication technology (Bortoloni et al. 2017). In other words, industry 4.0 is the linking of people and objects with any communication technology or service in every platform at all times (Wagner et al. 2017).

In 2013, Acatech defined Industry 4.0 as “The technical integration of production and logistics activities with the use of cyber physical systems, internet of things and internet of services” (Bartodziej, 2017).

After the application of Industry 4.0, the enterprises will be changed in accordance with the relevant articles:

- Functional and smart products will be produced by using internet of things and cyber physical systems.
- It will be ensured that customer oriented productions can be realized instead of mass productions.
- Real-time information and data transfer will be realized with smart factors and smart products.
- As raw materials and resources are optimized, efficiency will be increased and alternative energy sources will be able to use.
- Smart systems, machines and robots will have more important roles in production.
- The need for unskilled labor will be reduced.
- Production errors will be reduced nearly to zero.
- Development of occupational health and safety practices will be considered.
- Flexibility of working hours with Industry 4.0 will change shift strategies.
- Customer requests that are individualized can be realized with 3D printers outside the factory with simple production processes.
Global markets will grow with adapting companies to new systems.
By combining physical objects with the virtual world, production and consumption processes will be associated with the virtual world (Yazici and Duzkaya, 2016).

2.2 History of Industrial Revolutions

The first industrial revolution took place in England. After occurrence, the first industrial revolution spread to Western European countries and the United States right after England. With the industrial revolutions, many implementations in production have been changed and new rules have been started to be applied in industries. Industrialization can be defined as the transformation of nature parallel to human needs (Aksoy, 2017).

The history of industrial revolutions, some of the important inventions and technologies of industrial revolutions can be seen on Table 1 briefly.

<table>
<thead>
<tr>
<th>Table 1. History of Industrial Revolutions</th>
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<tbody>
<tr>
<td>First industrial revolution(1760-1830)</td>
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<tr>
<td>Second industrial revolution(1840-1973)</td>
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<tr>
<td>Third industrial revolution(1974-2011)</td>
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<tr>
<td>Fourth industrial revolution(2011-…)</td>
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</table>

Source: (Gabaçi and Uzunöz, 2017)

2.3 Components of Industry 4.0

Selek (2015) classifies the basic technological components of Industry 4.0 as follows; Intelligent robots, simulation, horizontal / vertical software integration, internet of things (network of integrated sensors), cyber security, cloud, additive production such as 3D printing, augmented reality and big data and analysis are the core components of Industry 4.0.

Except main components of Industry 4.0, other applied Industry 4.0 technologies are as follows: wearable technologies (smart watches, goggles, gloves), virtual reality applications, autonomous vehicles (drones), data analysis programs (Hoffman and Rüsch, 2017).

As it is mentioned, some of the significant components for Industry 4.0 can be identified as follow:

2.3.1 Cyber Physical Systems

Cyber physical systems, which are one of the main components of Industry 4.0 applications, are the systems that convey the physical movements of the objects with the help of sensors via the internet to the cyber system (Alçın, 2016). Cyber physical systems, as can be seen from the definition, form physical activities in virtual systems. Considering the production systems, all activities of production in cyber physical systems are transferred to the virtual world.

After exercising cyber physical systems in production systems, it will be very crucial for production. Because, through cyber physical system, every level of production (smart products, machines, factories) will be connected to each other (Pereira and Romero, 2017).

2.3.2 Internet of Things

Internet of things allows all objects in production to communicate with each other through communication devices such as RFID, sensor, operating system, mobile phone. Also, it provides companies having reaction to common production targets in the same processes (Hermann et al. 2016).

Internet of things can be defined as connecting physical objects to each other with internet every day, communicating human, machine, information systems in this system with each other and applying smart factories in production systems. In addition, a different definition is made as “A world
where physical objects are integrated with information technologies in the internet network and actively participate in business processes” (Pereira and Romero, 2017).

2.3.3 Smart Factories

Smart factories are a solution that is based on the principles of production to be able to respond quickly to the ever-changing customer expectations and to adapt to the required changes. When smart factories are installed, the complexities experienced in production are solved and production efficiency is increasing. Smart factory environment and scope are formed by the connection of the enterprise with human resources, machinery and smart products (Nunes et al. 2017).

Smart factories have smart devices and smart products that are integrated with IoT and CPS concepts. Smart devices have onboard processing, data storage, communication technology, sensors and actuators. Intelligent products can identify themselves, define their status, history and approaching processes (Mehami et al. 2018).

Production sequence is known systematically in smart factories. Also, machines and people are automatically directed according to production work plans (Hermann et al. 2016). Smart products can determine their production planning. By this way, production can be achieved automatically by smart production systems.

2.4 Advantages and Disadvantages of Industry 4.0

Industry 4.0 is precisely one of the most major subjects for the manufacturing industry in the years to come. Schmitt (2015) declared why Industry 4.0 is critical and revolutionizing information technology, marketing and sales processes with five items:

1. Industry 4.0 will decrease the responsibility of companies to adapt to new business trends. The rapid demand risings in the market, short life time products, complicated product structures, and supply chains working international are the subjects in which companies are thought to be forced.

2. Companies will be more innovative with Industry 4.0, and thus productivity will rise up. New trend technologies usage in production systems with digital and smart systems will rise the internet innovation speed in production systems and new business models will be achieved more quickly in production systems.

3. Customers are oriented at the center of production with Industry 4.0. The customization of the products will be made possible by digital systems, customer requests will be more critical in product designs.

4. The labor factor becomes the most critical subject with Industry 4.0. Productions can be done without labor, in the case of need in automation systems, workers will be in process, and employee will be needed mostly to solve complicated duties in production systems.

5. Important earnings in non-production subjects such as energy, raw materials and enterprise sources will be ensured. Environmental solutions, social and economic problems will be solved faster by using modern technologies in smart systems, and creative solutions will be introduced for production lines (Morrar et al., 2017).

With the application of Industry 4.0, it is necessary to mention the advantages that will be provided to the customers as well as the advantages that will be provided to the enterprises. Customers are an important part of the system in the supply chain. Industry 4.0 offers many advantages to customers. First of all, it will be easier for customers to communicate with every part of the supply chain in the digitalizing system. With the help of integrated technological systems and automations, customer requirements and additional requests will be delivered to the system instantly and appropriate solutions will be produced. Customer requests will be met quickly. Finally, open production and product information provided by smart products to customers will ensure more accurate usage information about the product and will be important in terms of tracking the life cycle of the product (Pereira and Romero, 2017).

In addition to the positive aspects of the implementation of Industry 4.0, there will be negative effects on the enterprises. It is important to identify and evaluate the economic impacts of digitalized production processes. Changes lead to significant difficulties in the enterprise. The challenges that businesses face when implementing Industry 4.0 are:
• Information technology security issues
• Reliability and stability in machine-machine systems
• Protection of integration of production processes
• Preventing systemic pauses due to information technology, which may lead to a delay in production or stopping.
• Protection of product know-how information
• To have adequate skills as an enterprise to prevent disruption of the Industry 4.0 processes.
• Unnecessary redundancies of information technology department to production processes
• Unwillingness to change the roles of the employees in the system with changes in the system
• Reductions in work groups requiring a low level of education, especially since many jobs with the new system will now be carried out through automation and computing processes (Sung, 2017).

Data security and cyber burglary are an important issue as Industry 4.0 will enable online connections in production. Management information security should be taken care seriously because transferring production data to out of enterprise can take them in difficult situations.

3. The Proposed Methodology

3.1 Purpose of Research

According to Industry 4.0 and digitalization in production, current situation of companies in manufacturing industry of Turkey and point of view of Industry 4.0 are evaluated within the scope of the study. Industry 4.0, which can be thought as an initial level in our country, needs to be understood well and correct strategies should be established. By this way, it was tried to determine the lacks of the manufacturing industry on Industry 4.0 with the survey questions used in the research and the hypotheses created in parallel with the questionnaire questions in this study.

The concept of Industry 4.0, resulting from the use of cutting-edge technology in production, is therefore an industrial revolution that closely concerns all industries. Since Industry 4.0 can be applied in every sector where industrial production takes place, the sector has not been differentiated in this study. Sectors and enterprises have been examined in the light of the survey study, and the knowledge levels of Industry 4.0 and their readiness to the new industrial revolution have been tried to be determined.

3.2 Findings Regarding Participants

The sectoral classification of the participating companies to survey is shown in Table 2. Between 202 participants, 199 of them stated the sector they worked for and evaluated within the scope of the study. The survey with the highest participation of 28.14 percent consists of metal, machinery and equipment sectors. Rest of the participants can be seen on Table 2.

Table 2. Grouping the Companies by Sectors

<table>
<thead>
<tr>
<th>Sector</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal, machinery and equipment</td>
<td>56</td>
<td>28.14</td>
</tr>
<tr>
<td>Food, tobacco and alcohol</td>
<td>50</td>
<td>25.13</td>
</tr>
<tr>
<td>Automotive and electronics</td>
<td>37</td>
<td>18.59</td>
</tr>
<tr>
<td>Chemical, plastic, pharmaceutical, cleaning</td>
<td>27</td>
<td>13.57</td>
</tr>
<tr>
<td>Paper production and printing, wood and furniture, construction</td>
<td>15</td>
<td>7.54</td>
</tr>
<tr>
<td>Others</td>
<td>14</td>
<td>7.04</td>
</tr>
<tr>
<td>Total</td>
<td>199</td>
<td>100</td>
</tr>
</tbody>
</table>

The firms participating in the study according to the number of employees are grouped in Table 3. Small and medium-sized companies (SMEs) are defined as firms that employ less than two hundred and fifty employees and do not exceed the annual net sales revenue or financial balance of 40 million Turkish Liras (Council of Ministers Decision, 2012).
Table 3. Grouping of Companies Participating in the Study by Number of Employees

<table>
<thead>
<tr>
<th>Number of Employees</th>
<th>Number of Participants</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>SME companies</td>
<td>130</td>
<td>59.41</td>
</tr>
<tr>
<td>Large scale companies</td>
<td>82</td>
<td>40.59</td>
</tr>
<tr>
<td>Total</td>
<td>202</td>
<td>100</td>
</tr>
</tbody>
</table>

The research was conducted in the manufacturing sector. The participants of the survey were asked to be engineers or specialists in production, production planning, quality, R & D, marketing departments or senior management. The distribution of the participants by departments is shown in Table 4.

Table 4. Grouping of Survey Participants by Departments

<table>
<thead>
<tr>
<th>Departments</th>
<th>Number of Participants</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>98</td>
<td>48.51</td>
</tr>
<tr>
<td>Research and Development</td>
<td>33</td>
<td>16.34</td>
</tr>
<tr>
<td>Quality</td>
<td>29</td>
<td>14.36</td>
</tr>
<tr>
<td>Production Planning</td>
<td>17</td>
<td>8.42</td>
</tr>
<tr>
<td>Marketing</td>
<td>13</td>
<td>6.44</td>
</tr>
<tr>
<td>Strategy</td>
<td>9</td>
<td>4.46</td>
</tr>
<tr>
<td>Purchasing</td>
<td>3</td>
<td>1.49</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>202</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Participation in the research was mostly from the production department, then from the R & D, quality, production planning, marketing, strategy and purchasing departments respectively. Department managers are listed in their departments and business executives are evaluated within the scope of strategy department in Table 4.

3.3 Findings Related to Survey Questions

The average of the responses of the participants to the survey questions are shown in Table 5. The survey questions are prepared according to the 5-point Likert scale.

Table 5. Answers of Participants to Survey Questions

<table>
<thead>
<tr>
<th>Survey Questions</th>
<th>Average</th>
<th>Scaling</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the use of technology in the process from product and service design to</td>
<td>3,653</td>
<td>1- Manual planning and design, low automation</td>
</tr>
<tr>
<td>production?</td>
<td></td>
<td>5- Full automation and information systems (ERP, MRP etc.)</td>
</tr>
<tr>
<td>What is the use of information systems in processes such as planning, production,</td>
<td>3,219</td>
<td>1- Manual, experience-based operations</td>
</tr>
<tr>
<td>estimation, supply chain?</td>
<td></td>
<td>5- Operation-specific information system use</td>
</tr>
<tr>
<td>What is the intensity of analyzing and evaluating customer data in design,</td>
<td>3,218</td>
<td>1- Data analysis not performed</td>
</tr>
<tr>
<td>engineering and manufacturing processes?</td>
<td></td>
<td>5- Design and production changes are made regularly by evaluating customer</td>
</tr>
<tr>
<td>specifications</td>
<td></td>
<td>specifications</td>
</tr>
<tr>
<td>What is the intensity of technology use in the process from production to</td>
<td>3,109</td>
<td>1- Manual operations</td>
</tr>
<tr>
<td>delivery of products and services to the customer?</td>
<td></td>
<td>5- Integrated customer management, distribution, supply chain automation</td>
</tr>
</tbody>
</table>

As can be seen in Table 5, the participants have positive answers to the questionnaires related to the Industry 4.0 awareness and Technologies in this study.
3.4 Hypotheses

Before transition to Industry 4.0 applications, it is necessary to be aware of Industry 4.0 technology levels and production knowledge, skills and capabilities. In line with the survey questions, sectors that are ready to implement Industry 4.0 or think that Industry 4.0 applications are necessary for the country's industry have been categorized. Then, it is predicted that the implementation of certain Industry 4.0 technologies and information technology infrastructures will be answered at variable rate in sectoral basis. In this context, the following hypotheses were formed.

- **H1**: There is a difference between sectors in the intensity of analyzing and evaluating customer data in design, engineering and production processes.
- **H2**: There is a difference between sectors in the intensity of using technology in the process from product and service design to production.
- **H3**: There is a difference between sectors in the intensity of using information systems in the processes such as planning, production, prediction and supply chain.
- **H4**: There is a difference between sectors in the rate of technology usage in the process from production to delivery of products and services to the customer.

3.5 Evaluation of Hypotheses

**H1**: There is a difference between sectors in the intensity of analyzing and evaluating customer data in design, engineering and production processes.

One-way ANOVA (one-way analysis of variance) was used to test **H1** hypothesis. Table 6 shows the homogeneity of variance test. Since sig. value is greater than 0.10 (0.743), it can be said that the variances are homogeneous. In this case, the basic assumption of one-way ANOVA analysis is provided.

<table>
<thead>
<tr>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>544</td>
<td>5</td>
<td>193</td>
<td>0.743</td>
</tr>
</tbody>
</table>

Table 6 shows the one-way ANOVA test for **H1**. **H1** is accepted because sig. value (0.005) is not greater than 0.10. According to the test results, the established alternative hypothesis is accepted. That is, there is a difference between sectors in the intensity of analyzing and evaluating customer data in design, engineering and production processes.

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>17,485</td>
<td>5</td>
<td>3,497</td>
<td>3,485</td>
</tr>
<tr>
<td>Within Groups</td>
<td>193,651</td>
<td>193</td>
<td>1,003</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>211,136</td>
<td>198</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The average of the responses of the survey participants to the “What is the intensity of analyzing and evaluating customer data in design, engineering and manufacturing processes?” question is shown in Table 7.

**H2**: There is a difference between sectors in the intensity of using technology in the process from product and service design to production.

One-way ANOVA (one-way analysis of variance) was used to test the **H2** hypothesis. Table 7 shows the homogeneity of variance test. Since sig. value is greater than 0.10 (0.870), it can be said that the variances are homogeneous. In this case, the basic assumption of one-way ANOVA analysis is provided.
Table 8. Evaluation of Analyzing Customer Data in the Design, Engineering and Production Process of Sectors

<table>
<thead>
<tr>
<th>Sector</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal, machinery and equipment</td>
<td>56</td>
<td>3.09</td>
</tr>
<tr>
<td>Food, tobacco and alcohol</td>
<td>50</td>
<td>2.90</td>
</tr>
<tr>
<td>Automotive and electronics</td>
<td>37</td>
<td>3.64</td>
</tr>
<tr>
<td>Chemical, plastic, pharmaceutical, cleaning</td>
<td>27</td>
<td>3.14</td>
</tr>
<tr>
<td>Paper production and printing, wood and furniture, construction</td>
<td>15</td>
<td>3.20</td>
</tr>
<tr>
<td>Others</td>
<td>14</td>
<td>3.79</td>
</tr>
</tbody>
</table>

Table 9. Homogeneity of Variances for H2

<table>
<thead>
<tr>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>368</td>
<td>5</td>
<td>193</td>
<td>.870</td>
</tr>
</tbody>
</table>

Table 9 shows a one-way ANOVA test for H2. The H2 hypothesis is rejected because its sig. value (0.218) is greater than 0.10. According to the test results, the established alternative hypothesis is rejected. In other words, there is no difference between sectors in the intensity of using technology in the process from product and service design to production.

Table 10. Analysis of Variance for H2

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>6,279</td>
<td>5</td>
<td>1,256</td>
<td>1,422</td>
</tr>
<tr>
<td>Within Groups</td>
<td>170,485</td>
<td>193</td>
<td>.883</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>176,764</td>
<td>198</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to the sectors examined, the average value of the responses of the participants to the survey question “What is the use of technology in the process from product and service design to production?” is shown in Table 11.

Table 11. Evaluating the Intensity of Technology Usage in the Process of Sectors from Product and Service Design to Production

<table>
<thead>
<tr>
<th>Sector</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal, machinery and equipment</td>
<td>56</td>
<td>3.71</td>
</tr>
<tr>
<td>Food, tobacco and alcohol</td>
<td>50</td>
<td>3.52</td>
</tr>
<tr>
<td>Automotive and electronics</td>
<td>37</td>
<td>3.86</td>
</tr>
<tr>
<td>Chemical, plastic, pharmaceutical, cleaning</td>
<td>27</td>
<td>3.40</td>
</tr>
<tr>
<td>Paper production and printing, wood and furniture, construction</td>
<td>15</td>
<td>3.53</td>
</tr>
<tr>
<td>Others</td>
<td>14</td>
<td>4.00</td>
</tr>
</tbody>
</table>

H3: There is a difference between sectors in the intensity of using information systems in the processes such as planning, production, prediction and supply chain.

One-way ANOVA (one-way analysis of variance) was used to test the H3 hypothesis. Table 12 shows the homogeneity of variance test for H3. Since sig. value is greater than 0.10 (0.516), it can be said that the variances are homogeneous. In this case, the basic assumption of one-way ANOVA analysis is provided.

Table 12. Homogeneity of Variances for H3 Test

<table>
<thead>
<tr>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>850</td>
<td>5</td>
<td>192</td>
<td>.516</td>
</tr>
</tbody>
</table>

One-way ANOVA test for H3 is shown in Table 12. H3 alternative hypothesis is accepted because sig. value (0.013) is less than 0.10. According to the test results, it can be said that there is a difference
between sectors in the intensity of the using information systems in the processes such as planning, production, prediction and supply chain.

Table 13. Analysis of Variance for $H_3$

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>13,915</td>
<td>5</td>
<td>2,783</td>
<td>2,987</td>
<td>.013</td>
</tr>
<tr>
<td>Within Groups</td>
<td>178,858</td>
<td>192</td>
<td>.932</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>192,773</td>
<td>197</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to the sectors examined, the average of the answers of the participants to the question of “What is the use of information systems in processes such as planning, production, estimation, supply chain?” is shown in Table 14.

Table 14. Evaluation of Sectors for the Intensity of Information Systems in Processes such as Planning, Production, Estimation and Supply Chain

<table>
<thead>
<tr>
<th>Sector</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal, machinery and equipment</td>
<td>56</td>
<td>3.14</td>
</tr>
<tr>
<td>Food, tobacco and alcohol</td>
<td>50</td>
<td>3.00</td>
</tr>
<tr>
<td>Automotive and electronics</td>
<td>37</td>
<td>3.69</td>
</tr>
<tr>
<td>Chemical, plastic, pharmaceutical, cleaning</td>
<td>27</td>
<td>3.00</td>
</tr>
<tr>
<td>Paper production and printing, wood and furniture, construction</td>
<td>15</td>
<td>3.26</td>
</tr>
<tr>
<td>Others</td>
<td>14</td>
<td>3.57</td>
</tr>
</tbody>
</table>

$H_4$: There is a difference between sectors in the rate of technology usage in the process from production to delivery of products and services to the customer.

One-way ANOVA (one-way analysis of variance) was used to test the $H_4$ hypothesis. Table 15 shows the homogeneity of variance test for $H_4$. Since, significance value is less than 0,10 (0,053), it can be said that the variances are heterogeneous.

Table 15. Homogeneity of Variances for $H_4$ Test

<table>
<thead>
<tr>
<th>Levene Statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.224</td>
<td>5</td>
<td>193</td>
<td>.053</td>
</tr>
</tbody>
</table>

Table 16. Analysis of Variance for $H_4$

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>6,240</td>
<td>5</td>
<td>1,248</td>
<td>1,600</td>
<td>.162</td>
</tr>
<tr>
<td>Within Groups</td>
<td>150,544</td>
<td>193</td>
<td>.780</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>156,784</td>
<td>198</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 17. Evaluation of Technology Usage Density in Sectors from Production to Delivery of Products and Services to Customer

<table>
<thead>
<tr>
<th>Sector</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal, machinery and equipment</td>
<td>56</td>
<td>2.94</td>
</tr>
<tr>
<td>Food, tobacco and alcohol</td>
<td>50</td>
<td>3.04</td>
</tr>
<tr>
<td>Automotive and electronics</td>
<td>37</td>
<td>3.35</td>
</tr>
<tr>
<td>Chemical, plastic, pharmaceutical, cleaning</td>
<td>27</td>
<td>3.07</td>
</tr>
<tr>
<td>Paper production and printing, wood and furniture, construction</td>
<td>15</td>
<td>3.00</td>
</tr>
<tr>
<td>Others</td>
<td>14</td>
<td>3.50</td>
</tr>
</tbody>
</table>
One-way ANOVA test for $H_4$ hypothesis is shown in Table 16. $H_4$ alternative hypothesis is rejected because sig. value (0.162) is less than 0.10. According to the test results, it can be said that there is not difference between sectors in the rate of technology usage in the process from production to delivery of products and services to the customer.

According to the sectors examined, the average of the answers of the participants to the question of “What is the intensity of technology use in the process from production to delivery of products and services to the customer?” is shown in Table 17.

4. Conclusion

The concept of Industry 4.0 is becoming increasingly popular today. The technological revolution, which started under the leadership of developed countries, undoubtedly makes itself felt in every field of society as well as the production sector. It is not possible to follow this process as a country and not to take the necessary steps and to realize the technological transformations. It is seen that the state policies developed for the transition to the fourth industrial revolution in our country industry have been developed. In addition to the state policies, the aim of the study was to create an awareness of Industry 4.0 in the private sector. In this respect, a questionnaire study was conducted and hypotheses were prepared and examined in parallel with the questionnaire questions.

In the $H_1$ hypothesis, in the intensity of analyzing and evaluating customer data in design, engineering and production processes between sectors were examined. One-way ANOVA test was performed for $H_1$ hypothesis. According to the results, $H_1$ hypothesis was accepted. In this respect, it is said that there is a difference between sectors in the intensity of analyzing and evaluating customer data in design, engineering and production processes.

In the $H_2$ hypothesis, the differences in the intensity of using technology in the process from product and service design to production were examined. One-way ANOVA test was performed for $H_2$ hypothesis. According to the evaluation results, $H_2$ hypothesis was rejected. According to the data, it can be said that there is no difference in the intensity of technology usage in the process from product and service design to production.

In the $H_3$ hypothesis, the differences in the intensity of using information systems in the processes such as planning, production, estimation and supply chain between sectors were examined. One-way ANOVA test was used for $H_3$ hypothesis. According to the evaluation results, $H_3$ hypothesis was accepted. In other words, it can be said that there is a difference in the intensity of using information systems in sectors such as planning, production, estimation and supply chain.

In the $H_4$ hypothesis, the differences in the rate of technology usage in the process from production to delivery of products and services to customers were examined. One-way ANOVA test was performed for $H_4$ hypothesis. According to the evaluation results, hypothesis $H_4$ was rejected. In other words, there is no difference between the sectors in the rate of technology usage in the process from production to delivery of products and services to the customer.

References

Aksoy, S. (2017). Değişen teknolojiler ve Endüstri 4.0: Endüstri 4.0’ı anlamaya dair bir giriş. Sosyal Araştırmalar Vakfı Katkı Dairesi, sayı. 4, ss. 34-44.


ACTUAL ISSUES OF COOPERATIVE PROPERTY’S TRANSACTION ANALYSIS

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Abstract

The activity of cooperative enterprises that occurs in a certain institutional environment and is defined as a set of basic social, political, legal and economic norms as part of human behavior is considered. It has been established that institutions influence the functioning of cooperatives by influencing the costs of exchange and production. Together with technology, they determine the transaction and transformation costs that make up the total costs. The research focuses on cooperative enterprises, as targeted entities designed to maximize income or achieve a goal defined by the opportunities created by the institutional structure.

The study proved the existence of cooperatives advantages in competitiveness in comparison with enterprises of other forms of ownership. It has been established that the advantages of cooperative ownership over other forms of ownership are not in technology, in technology, or in the qualifications of cooperators. The main advantage of cooperatives over traditional capitalist firms is the increased motivation of the members of the cooperative. To establish this, a transactional analysis of cooperative ownership was carried out.

Keywords: Transaction, Transaction Charges, Opportunism, Co-operative Ideology, Co-operative Property.

1. Introduction

Transactions are strategic relations in the course of economic activity, without which there could be no production, consumption, purchase, sale, investment. The concept of the transaction was introduced into the economy by J.R. Commons, who considered the problem of economic organization in close connection with the problems of conflict, interdependence and order (Tkach, 2007). During the transaction the legal control is realized and the conflicts of interest of the dependent individuals are resolved in such a way that a social need arises.

Therefore, property, the essence of which is the legitimate right to retain whatever it needs, is the basis of the institutional economy, and transaction is an elemental part of economic activity and, therefore, the basic unit of economic analysis. Transactions are not about exchange of goods, but alienation and assignment of property rights. Cooperatives can only be genuine and successful if the economic basis of their operation is cooperative ownership.

2. Status of Problem Study

The theoretical basis for conducting a transactional analysis of cooperative ownership was the work of scientists, who began separate directions of institutional theory of developed market systems: transactions – D. Bromley, J. Commons; transaction costs – R. Coase, D. North; contracts – O. Williamson, B. Klein; the theory of property rights – S. Peyovich, E. Furubotn. The ideologist of property theory is considered by A. Alcian, and its developers are recognized by such economists as R. Coase, G. Demets, R. Poser, D. North and some others. The general idea is that it is not the resource that embodies the property, but «the bundle or share of the rights to use the resource is what constitutes the property» (Tkach, 2007). However, complex research on the features of transactional analysis of cooperative ownership is essentially absent. All this determines the relevance of the problems for further study.
3. Tasks and Methods of Research

It is necessary to compare the co-operative property with the classic private, public, as well as some types of joint-stock and answer the question of how this or that property system affects the value of transformational and, above all, transaction costs. Comparison of transaction costs is based on logical analysis and not on any specific, empirical figures. Only those costs that are reflected in the accounting of the enterprise will be analyzed.

The researches are made according to the conventional methods used in economic science - abstract-logical, method of modeling, monographic, system analysis and synthesis.

4. Research Results

This type of ownership has emerged as a cooperative in the UK. Its origin was explained, first, by the strong desire of the first cooperators to gain economic independence from the owners of private capitalist enterprises.

### Table 1. Features of Cooperative Ownership

<table>
<thead>
<tr>
<th>Features of Cooperative Ownership</th>
<th>Characteristics of Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voluntary conversion of a part of private property of members into a cooperative</td>
<td>The membership of the members when joining a cooperative does not disappear as their private property, and is not completely absorbed by the cooperative, but takes part only in the formation of the common cooperative ownership and part assumes responsibility for the general obligations of the cooperative.</td>
</tr>
<tr>
<td>Multi-entity</td>
<td>The property of each cooperative is separated from the property of other cooperatives. This cooperative provides legal and actual independence, the ability to independently plan their activities and make any decisions.</td>
</tr>
<tr>
<td>Cooperative ownership is a type of private property</td>
<td>The private ownership of a cooperative means that any outside non-economic force cannot impose on the cooperative, as an autonomous private owner, certain conduct.</td>
</tr>
<tr>
<td>Cooperative ownership is a group and collective ownership</td>
<td>Co-operative property is something that is collectively managed by the entire co-op group. The results of the economic activity of a real cooperative become the achievement of the whole collective, of the whole group of members of the cooperative, and not of a narrow circle of persons.</td>
</tr>
<tr>
<td>Cooperative ownership implies decentralization</td>
<td>Property objects should be closer not to the &quot;center&quot;, but to those to whom they are created and to whom they belong. The nature of co-operative ownership is most closely matched by market conditions of economic maneuver, competitiveness on the market.</td>
</tr>
<tr>
<td>Effective participation of members in their cooperatives in one form or another</td>
<td>The voluntary participation of the members is one of the fundamental values of the cooperation. Due to the participation of the members of the cooperative, the real risk of their alienation from the cooperative property is reduced.</td>
</tr>
</tbody>
</table>

**Source:** Own research.
The members of the cooperative begin to pool their modest means through complicity and become joint owners. Second, as a business enterprise, a cooperative can only be successful if it has its own property. Third, the cooperative is obliged to own the legal entity as a legal entity. Each cooperative has at its disposal a small or large complex of immovable and movable property (Sobolev, 2010). Such an economic relationship of ownership inevitably receives legal consolidation in the system of legal rules. As a result, the cooperative gets the ownership.

In the constitutions of several countries, co-ownership is recognized as an independent form of ownership along with private and state forms. In cases where such a direct link does not exist, co-ownership is regarded as a type of property, whether private or public. Thus, the English cooperative leader P. Derrick believed that: «Cooperative property is a form of private ownership in the sense that cooperatives are independent of the state, but it is also a form of public ownership» (Kuzmin, 1974). The Belgian cooperator, economist, Professor P. Lamber argued that «co-operation solves the property problem: it makes capital an object of public property and encourages – as far as technically possible – all people to use it, using the principle of «open doors» (Kuzmin, 1974).

Cooperative ownership and its core – the ownership of cooperatives – have a number of distinctive features. This is also the non-state essence of cooperative property, peculiarities of its formation, the division of cooperative property into indivisible and divisible parts, etc. In addition, there are other significant features of the cooperative ownership, (see Table 1).

However, none of the considered differences of cooperative ownership separately characterizes it exhaustively and only all distinctive features in the aggregate allow to distinguish it from other forms and types of ownership. The loss of distinctive features of cooperative ownership can only testify to the disappearance of its specificity, and hence the degree of deformation. Ignoring the internal properties of cooperative property objectively leads to its underestimation, to the loss of identity of cooperatives, to the idea of their elimination.

Having established the peculiarities of the cooperative form of ownership, one can proceed to its transactional analysis. For this purpose we will use the classification of transformation and transaction costs. Transformation costs include:

1. Fixed costs. Their value depends, first of all, on the size of the cooperative. In addition, fixed costs are associated with some types of transaction costs, first and foremost, with the costs of exposure, and the relationship is direct. It is clear that with the same size of enterprises fixed costs will be comparatively less in the enterprise with private and cooperative ownership and more in the enterprise of state and joint-stock ownership.

2. Variable costs. They are much less than permanent, depending on the size of the organization (although there is such a connection). Employee interest in achieving the end result reduces the variable costs, which is typical for cooperatives in the first place.

Let’s consider the types of transaction costs for cooperatives. Transaction costs are the value of the resources spent on transactions. They are divided into – the cost of information retrieval, the cost of negotiation, the cost of measurement, the cost of specification and protection of property rights, the cost of opportunistic behavior, the cost of politicization.

The existence of information retrieval costs is due to the limited nature of the information possessed by the individual. This kind of cost consists of the time and other scarce resources needed to find the best possible alternatives. A. Shastitko states: «The existence of this type of cost is primarily determined by the differentiation of prices for the same product, which is not caused by differences in transport costs. The basis of such price differentiation is the phenomenon of uncertainty, which is manifested in the fragmentation and heterogeneity of information that every economic agent receives» (Shastitko, 1998).

It can be stated that where the relationship between property and management is more pronounced, where the problem of agency relations is not so acute, the cost of information search should be lower. Obviously, the forms of ownership that generally have such an advantage will be private, joint stock with the participation of employees in management and cooperative. Thus, for these forms of ownership, the costs of information retrieval will be slightly below average, for other forms of ownership they will be average.

The cost of negotiation arises from the lack of economic operators’ full information — in this case — information on the parties’ comparative bargaining power. These are the costs of negotiating the terms of the exchange, choosing the form of the agreement. The more people involved in running a business,
the higher the cost of negotiating. Therefore, in cooperatives and enterprises (private and joint-stock), where employees are directly involved in management, these costs will be above average.

Measurement costs are the costs necessary to measure the quality of the goods and services for which the transaction is being made. According to R. Kapelyushnikov «… measurement is a quantification of information»(Kapelyushnikov, 1994). As A. Shastitko notes: «Information about the properties of goods is distributed unequally between contractors and is the content of the phenomenon of asymmetry of information, which forces the party with less information to bear relatively higher costs (through the use of experts, time consuming, etc.), related to the restoration of symmetry in its possession»(Shastitko, 1998). Cooperatives and joint-stock companies with the participation of employees in management have the advantages of this type of expenses.

The costs of specification and protection of property rights include the costs associated with the legislative provision of the specification of property rights and the costs of maintaining the property rights protection authorities. According to A. Shastitko: «It is assumed that economic agents act in accordance with their interests, so respect for the rights of others (as a system) is possible when the incentive structure, defined by sanctions for violation of the legal regime, does not allow to violate the established rules»(Shastitko, 1998).

One of the main means of saving on the costs of specification and protection of property rights is an ideology that enables the protection of property rights more effectively than formal institutions. On the other hand, the cost of supporting such an ideology in society must also be counted as such. Despite the fact that the costs of specification and protection of property rights are characteristic, first of all, for the whole society as a whole, its specific institutes, including cooperative property institutes, are not free from these costs.

It is necessary to separate the costs of the specification from the costs of property rights protection to analyze this type of transaction costs. If the latter are related to the number of owners inversely proportional to dependence (ie, the more owners, the less transaction costs of ensuring the security of property against external encroachments)(Shastitko, 1998), for the former, in the general case, there is a direct relationship between these costs and the number of owners. Most likely, the smallest amount of costs of specification and protection of property rights is characteristic of communal property institutions (private property is characterized by high security costs, and the state – a high degree of erosion of property rights). As an illustration, a graphical confirmation of this thesis can be given.

![Graph](image.png)

**Note:** ATS – average transaction costs of specification and protection of property rights per person; N is the number of people in the group

**Source:** Shastitko, 1998.

**Figure 1. Specification Costs and Costs of Property Rights Protection**
In Figure 1 curve D (N) is the specific cost of securing property rights against external encroachment, and curve B (N) is the specific cost of specifying property rights (the shape and angle of both curves are arbitrary: it is impossible to say anything specific about the first or the second curve). Point A on the curve T (N) (T = B (N) + D (N)) shows the case of private property, point C— the case of state and point E— communal property. Of the various forms of ownership, the cooperative has the advantage of the level of such costs: cooperative ideology reduces the risk of opportunistic behavior, which in turn reduces the costs of specification and protection of property rights.

The basis of opportunistic behavior lies in the divergence of economic interests caused by the scarcity of resources, uncertainty and, as a consequence, the poor specificity of contract terms. Opportunism, according to Williamson, means «... the provision of incomplete or distorted information, especially when it comes to deliberate deception, misrepresentation, and concealment of truth or other methods of entanglement of a partner. It underlies true or perceived informational asymmetry that complicates economic organization problems» (Williamson, 1996). If the expected costs associated with evasion of the contract are less than the benefits it will bring, then this economic agent will choose one or the other form (pre-contract and post-contract) opportunistic behavior.

The term politicization costs refers to transaction costs that occur within an organization and are related to the very nature of decision making within the organization. If the voluntary nature of an agreement entered into the market provides a guarantee for effective decision-making, the absence of such voluntariness within the organization entails additional costs. Moreover, this happens both when decisions are taken on a collective basis and when decisions are made centrally. The costs of collective decision making are directly proportional to the number of people involved in the decision-making process. It is likely that these costs will be minimal with the private ownership and maximum with the state, cooperative and joint stock with the participation of employees in the management of the enterprise.

The costs of influence arise from the desire of rationally acting individuals who do not participate directly in the decision-making process to reap the benefits of decisions made in the administrative system. The cost of influence in cooperatives, as a rule, cannot be significant because the cooperatives are not so large. In addition, since cooperators themselves manage their property, cooperatives are

Actual Issues of Cooperative Property’s...

likely to have less information asymmetry between agents and principals, and also reduce the cost of influence and cooperative ideology.

The graph in figure 2 binds the optimum size of the cooperative to the dynamics of two types of transaction costs: the specific costs of reaching agreement and ensuring control over its implementation by members of the group and the specific costs of securing property rights against external encroachments. ATS – average transaction costs (per person); A (N) – the specific costs of reaching an agreement and ensuring control over its implementation by team members; D (N) – specific costs of securing property rights against external encroachments; T (N) – total transaction costs; N * – the size of the group that minimizes average transaction costs; ATS * is the minimum average transaction cost.

Note: PBX – specific costs; N is the number of people in the group

Figure 3. Costs and Cooperative Ideology

Thanks to the analysis we can associate finding the optimal group size in a cooperative ownership system not only with the specific costs of reaching the agreement and ensuring control over its implementation and the specific costs of securing property rights against external encroachments, but also with all the latest types of transactional and transformation costs that affect the size of the group. In Figure 3 curve D (N) reflects the total changes in transaction costs of information retrieval, measurement and protection costs, and ongoing transformation costs. Curve A (N) is the sum of transaction costs of the specification of property rights, opportunistic behavior (evasion), collective decision-making and influence costs. Accordingly, as in Figure 2. T (N) = A (T) + D (N). The K (N) = F (N) + M (N) curve is an analogue of the T (N) curve for cooperatives. As has been shown, cooperative ideology allows cooperatives to have a lower cost (primarily transactional), compared to other enterprises, primarily communal property. That is, A * − B * is the difference in costs that cooperative ideology provides.

5. Conclusions

This is a very common case: in addition to the factors considered – ownership and size of cooperatives – the cost and cost effectiveness are influenced by many other factors, for us by exogenous ones (for example, talentless leadership, etc.). In addition to reducing costs, cooperatives can receive specific benefits from another source by increasing profits. The cooperative has much more reason to think not only about himself but also about the whole cooperative. It is easier for a cooperative member to realize their creative potential than for a hired worker: the former is more interested in this. Cooperative ideology is the source of another specific resource – a special, high motivation, creative attitude to work. However, the role of a factor in increasing profits appears to be
much smaller compared to a reduction in costs. First, even a significant increase in motivation can only in exceptional cases be advantageous in a particular struggle: in modern conditions, specific resource number one is knowledge, information, and knowledge cannot be replaced by any motivation. Secondly, it is more difficult for people who have some specific resources (the same knowledge) to co-opt than for people who do not have the resources. Third, such an advantage may be characteristic only of industrial cooperation.

References

POLITICAL AWARENESS OF SUSTAINABLE DEVELOPMENT IN UNIVERSITIES

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Abstract

The concept of Sustainable Development is a concept that requires a holistic understanding of society, the environment and the economy. In order to implement the policy framework to be established within this integrity, it must be integrated horizontally and vertically. In order to achieve this integration, universities that train future leaders and decision-makers and who have social responsibilities towards the society are key position.

Sustainable Development is discussed in three dimensions. Economic, social and environmental dimension. In order to integrate the policies in these three dimensions, they must have three characteristics. These characteristics; policies are consistent with each other, policies are formed in a way to combine the three dimensions and the policies to be created to cover these three dimensions together.

As the driving force of the society, universities have important duties to achieve the Millennium Development Goals. Within this scope, universities can include sustainable development courses in their undergraduate and graduate education, organize graduate programs, organize training programs for internal and external stakeholders and develop collaborative projects.

Considering world-class practices, while developing complex political networks and developing important studies on sustainable development in developed countries, it has been observed that a policy framework has not yet been developed in less developed and developing countries. Again, it is seen that not all of the sustainable development targets are handled with integrity and some specific areas of interest, especially the environment, come to the forefront.

This study explores the awareness of the millennium development goals in the universities that are accepted as the driving force of the society. In the literature review, it is seen that the millennium development goals are mostly addressed in the environmental dimension and the subject is evaluated for university students. However, the attitudes of the policy-making institutions are also important for the implementation of the policies established. In order to demonstrate these attitudes, it is necessary to measure the awareness of managers and academicians who form curricula in universities and are in institutional decision-making positions.

As a result, it is important to develop policy awareness and achieve policy integration by considering the issue of sustainable development in universities, not only in environmental sciences but in all disciplines.

Keywords: Sustainable Development, Political Integration, Sustainable Development for Education, Universities.
ECONOMETRIC ANALYSIS OF GRAVITY MODEL: THE CASE OF TURKEY AFRICAN COUNTRIES

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Abstract

The countries on the African continent constitute an important part of the world foreign trade volume. Today, size of the share of the continental countries in foreign trade shows the power to increase its share in foreign trade in coming years. Therefore, Turkey's foreign trade with the African continent countries, will become even more important in coming years.

In this study, determinants of trade potential between selected African countries and Turkey were analyzed by Gravity Model. The analyzes were estimated by panel data method using annual data between 1989-2017. The factors affecting Turkey's and African countries foreign trade were determined and reviewed. Main hypothesis of the study was “Between Turkey and selected African countries the Gravity Model is eligible”.

In the analysis, the model was established with the data of foreign trade volume, population densities, distance between countries and growth rate, and cointegration and causality relationships between variables were tried to be determined. In addition Augmented Dickey-Fuller (CADF) unit root test was applied to determine whether the series contain unit root or not. Since the variables were stationary at the level values, the relationship between medium and long term cointegration was not examined. The Dumitrescu-Hurlin causality test was used to test the causality relationships between variables. A one-way causality relationship was determined from foreign trade volume to growth rate. When the estimation results are analyzed, it is seen that the population variable has a positive effect on foreign trade. As the coefficients of the growth rate and distance variables were statistically insignificant, it was concluded that the direction of their effects on foreign trade could not be interpreted.

Key Words: Gravity Model, Africa, Foreign Trade, Population, Growth

ÇEKİM MODELİNİN EKONOMETRİK ANALİZİ: TÜRKİYE-AFRİKA ÜLKELERİ ÖRNEĞİ

Özet


Analizlerde dış ticaret hacmi, nüfus yoğunlukları, mesafe ve büyüme oranı verileri ile model kurulmuş ve değişkenler arasındaki esbütünleşme ve nedensellik ilişkileri tespit edilmeye çalışılmıştır. Analizlerde öncelikli olarak serilerin birbir kık tespiti için durağanlık testlerinden Augmented Dickey-
Çekim Modelinin Türkiye-Afrika Ülkeleri...

Fuller (CADF) birim kıkırt testi uygulanmıştır. Değişkenler düzey değerlerinde duran olduğu için orta ve uzun dönemli eşbütünleşme ilişkisine bakılmamıştır. Değişkenler arasındaki nedensellik ilişkileri için Demitrescu-Hurlin nedensellik testinden faydalanılmıştır.

**Anahtar Kelimeler:** Çekim Modeli, Afrika, Dış Ticaret, Nüfus, Büyüme

### 1. Giriş


### 2. Teorik ve Kavramsal Çerçeve


Türkiye’nin 1989-2017 yılları arasındaki dış ticaret değerlerini Tablo 1’de ihtar, ihthalat, Dış Ticaret Hacmi ve Dış Ticaret Dengesi dönem ortalama değerleri ABD doları cinsinden verilmiştir. Söz

Tablo 1. Türkiye'nin 1989-2017 Yılları Arasındaki Dış Ticaret Değerleri (bin $)

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<th>İthalat (M)</th>
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<th>Dış Ticaret Dengesi (X-M)</th>
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Kaynak: Dünya Bankası, 2019 (Dünya Bankası verileri kullanılarak tablo tarafımızca türetilmiştir.)


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Çekim Modelinin Türkiye-Afrika Ülkeleri...


Ekonomik göstergeler, ülkelerin ekonomileriyle ilgili detaylı bilgi verebilmektedir. Bu nedenle, çalışmanın analiz kısmına dahil edilen 19 seçili Afrika ülkesinin Dünya Bankasından alınan veriler ışığında GSYH, Büyüme Oranları, Kişi Başına Düşen Millî Gelir, Dış Ticaret Hacimleri ve Nüfus gibi temel makroekonomik göstergeleri Tablo 2′de gösterilmektedir.

Tablo 2. SAÜ’nün Makro Ekonomik Yapısı (2017 Verileri)

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Kaynak: Dünya Bankası, 2019 (Dünya Bankası verileri kullanılarak tablo tarafımızca türetilmiştir.)


3. Literatür Özeti

Çekim modelini kullanarak dış ticareti açıklamaya yönelik literatürde birçok çalışma bulunmaktadır. Bu çalışmalar ise; ülkelerle, yöntemlere ve değişiklere göre değerlendirilmektedir.
Dünyada ve Türkiye’de çekim modeli yardımıyla dış ticareti açıklamaya yönelik çalışmalar aşağıdaki gibi özetlenmiştir.

### Tablo 3. Literatür Tablosu

<table>
<thead>
<tr>
<th>Yazarlar</th>
<th>Değişkenler</th>
<th>Yöntem ve ülkeler</th>
<th>Bulgular</th>
</tr>
</thead>
</table>
### Çekim Modelinin Türkiye-Afrika Ülkeleri...

<table>
<thead>
<tr>
<th>Yazarlar</th>
<th>Dönen / Çekim Modeli ve Değişkenler</th>
<th>Analiz Yöntemi</th>
<th>Uygulanan Ülkeler</th>
<th>bulgular</th>
<th>DENKLEMLER</th>
</tr>
</thead>
</table>

### 4. Ekonometrik Analiz ve Metodoloji


#### 3.1. Çekim Modeli Yaklaşımı

Dış ticarette Çekim Modeli, iki ülkenin ekonomik büyüklükleri ve aralarında uzaklıklara dayanarak dış ticaret akımlarını tahmin etmek için iktisatta kullanılabilecek bir modeldir. Dış ticarette Çekim
İ. Çütcü and T. Songur


\[ F = \frac{Gx(M_1 \cdot M_2)}{R^2} \]

Newton’un çekim kanununa göre; F: Çekim kuvvetini, G: Evrensel çekim sabitini \( M_1 \) ve \( M_2 \): Cisimlerin kütlelerini, R: Mesafeyi ifade etmektedir.

3.2. Veri Seti ve Model


Modelde dahil edilen değişkenlere ait açıklayıcı bilgiler Tablo 11’de yer almaktadır. Değişkenlerden büyüme oranı (BO) değişkeni dışında değişkenlerin logaritması alınarak doğrusal hale getirilmiş bir şekilde analize dahil edilmiştir.

<table>
<thead>
<tr>
<th>Tablo 3. Veri Seti</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Değişkenler</strong></td>
</tr>
<tr>
<td>MES</td>
</tr>
<tr>
<td>BO</td>
</tr>
<tr>
<td>DTH</td>
</tr>
<tr>
<td>NÜF</td>
</tr>
</tbody>
</table>

Çekim Modeli literatüründe de belirtildiği üzere kullanılan çarpım formundaki denklem şu şekildedir (Golovko, 2009: 11):

\[ X_{ij} = \alpha \beta Y_i \beta Y_j \beta D_{ij} \]

Modelde bağımlı değişken olarak gösterilen \( X_{ij} \), \( i \) ülkesinden \( j \) ülkesine yapılan dış ticaret hacmini göstermektedir. Bağımsız değişkenlerden \( Y_i \) ve \( Y_j \) belirlenen ülkelerin gelirlerini \( D_{ij} \) ise ülkeler arasındaki mesafeyi göstermektedir. Uzaklık değişkeni dışındaki diğer değişkenlerin katsayıları pozitif işaretli olarak beklenmektedir.

Literatürde yapılan çalışmalar geliştirince Çekim Modeli’ne farklı değişkenler dahil edilerek modellerde gerçekleşme ve analiz bulguları yorumlanmıştır. Türkiye ile seçili Afrika ülkeleri arasındaki dış ticaret ilişkisinin Çekim Modeli kapsamında incelendiği çalışmada belirtilen örneklem ve veri aralığında kullanılan model ise şu şekilde kurulmuştur:

\[ \ln DTH_{it} = \beta_0 + \beta_1 BO_{it} + \beta_2 \ln MES_{ij} + \beta_3 \ln NÜF_{it} + \varepsilon_{it} \]

Modelde gösterilen \( i = 1, 2, 3, ..., N \) yatay kesit verilerini gösterirken, \( t = 1, 2, 3, ..., T \) zaman boyutunu, \( \varepsilon \) ise hata teriminin ifade etmektedir.
Çekim Modelinin Türkiye-Afrika Ülkeleri...

3.3. Yatay Kesit Bağımlılık Testi

Seriler arasında yatay kesit bağımlılığının varlığı durumunda analizlerin yapılmasını, elde edilecek sonuçların bakımından önem teşkil etmektedir (Breusch ve Pagan, 1980; Pesaran, 2004). Bu sebeple ki analizlere başlanmadan önce seriler arasında yatay kesit bağımlılığının test edilmesi gerekmektedir.

Analizlerde yatay kesit bağımlılığının varlığı incelenmiş olup, yatay kesit testi sonuçları Tablo 4’te verilmektedir.

Yatay kesit bağımlılığı test sonuçlarının gösterildiği Tablo 4 incelediğinde uygulanan tüm testlerin olasılık değerlerinin 0.05’ten küçük olduğu görülmektedir. Türkiye ile seçili Afrika ülkeleri arasındaki dış ticaret ilişkisinin Çekim Modeli kapsamında incelendiği çalışmada 1989-2017 yılları arasındaki dönemlerde incelemiştir için zaman boyutu gözlem boyutundan büyük. Analize dahil edilen ülke sayısı 19 iken zaman boyutu ise 28 dir. (T>N) olduğundan CD_{lm1} ve LM_{adj} sonuçlarına göre karar verilebilir. Yatay kesit bağımlılığı testlerinde genellikle CD_{lm1} testi, şapmalı sonuçları verebildiğinden dolayı LM_{adj} testi sonuçları dikkate alınmaktadır. LM_{adj} testi sonucunu göre, temel hipotez olan “Kesitlerarasında bağımlılık yoktur” kuramı reddedilerek, panel veride yer alan “Ülkelerarasında yatay kesit bağımlılığı bulunmaktadır” hipotezi kabul edilerek H_{0} hipotezi red edilmiştir. Değişkenlerde yatay kesit bağımlılığının tespit edilmesinden dolayı bunun sonucu uygun olarak ikiçini nesil testler tercih edilmişdir.

Tablo 4. Yatay Kesit Bağımlılığı Testi Sonuçları

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>lnDTH</td>
<td>T istatistiği</td>
<td>3.381.959</td>
<td>1.736.288</td>
<td>5.718.226</td>
<td>1.732.895</td>
</tr>
<tr>
<td></td>
<td>Olasılık Değeri</td>
<td>0.000*</td>
<td>0.000*</td>
<td>0.000*</td>
<td>0.000*</td>
</tr>
<tr>
<td>BO</td>
<td>T istatistiği</td>
<td>3.126.619</td>
<td>7.660.199</td>
<td>7.702.472</td>
<td>7.320.913</td>
</tr>
<tr>
<td></td>
<td>Olasılık Değeri</td>
<td>0.000*</td>
<td>0.000*</td>
<td>0.000*</td>
<td>0.000*</td>
</tr>
<tr>
<td>lnNÜF</td>
<td>T istatistiği</td>
<td>4.913.309</td>
<td>2.564.347</td>
<td>7.009.400</td>
<td>2.560.954</td>
</tr>
<tr>
<td></td>
<td>Olasılık Değeri</td>
<td>0.000*</td>
<td>0.000*</td>
<td>0.0535***</td>
<td>0.000*</td>
</tr>
</tbody>
</table>

Not: *, ** ve *** serilerin sırasıyla %1, %5 ve %10 düzeyinde katsayılarnın anlamlı olduğunu göstermektedir. Parantez içindeki değerler olasılık değerlerini ifade etmektedir.

Bu durum günümüz küresel dünyası ile de uymuș olup seçili Afrika ülkelerinden birine gelebilecek bir şok etkisi, diğer ülkeleri de etkisi altında alacağı sonucu çıkmaktadır. Bu nedenle, gerek Afrika ülkerlerinin geleceğini kurgulayan yöneticilerin gereke de Afrika ülkerlerinin, kendi politikalarını geliştirebilen bu durumu dikkate alarak geleceğe yön vermesi gerekmektedir.

3.4. Panel Birim Kök Testi

Tablo 5. CADF Birim Kök Testi Sonuçları (Düzey Değerleri İçin)

<table>
<thead>
<tr>
<th>Ülke</th>
<th>LnDTH</th>
<th>BO</th>
<th>LnNÜF</th>
<th>LnMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cezayir</td>
<td>-9.110(2)*</td>
<td>-3.97(2)**</td>
<td>-2.156(5)</td>
<td>-3.922(4)**</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>-7.535(2)*</td>
<td>-3.17(2)</td>
<td>-1.850(5)</td>
<td>-3.923(4)**</td>
</tr>
<tr>
<td>Kamerun</td>
<td>-5.612(2)*</td>
<td>-3.12(2)</td>
<td>-2.142(5)</td>
<td>-3.932(4)**</td>
</tr>
<tr>
<td>Kongo CUMH.</td>
<td>-5.872(2)*</td>
<td>-4.18(2)**</td>
<td>-4.282(2)**</td>
<td>-1.640(4)</td>
</tr>
<tr>
<td>Fildişi Sahili</td>
<td>-5.628(2)*</td>
<td>-2.15(2)</td>
<td>-3.635(2)**</td>
<td>-1.727(4)</td>
</tr>
<tr>
<td>Mısır</td>
<td>-4.291(2)**</td>
<td>-4.27(2)**</td>
<td>-3.337(2)</td>
<td>-1.631(4)</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>-4.279(2)**</td>
<td>-4.51(2)**</td>
<td>-2.812(2)</td>
<td>-1.724(4)</td>
</tr>
<tr>
<td>Gana</td>
<td>-4.493(2)**</td>
<td>-3.29(2)</td>
<td>-2.494(2)</td>
<td>-0.996(4)</td>
</tr>
<tr>
<td>Gine</td>
<td>-4.713(2)*</td>
<td>-3.07(2)</td>
<td>-2.494(2)</td>
<td>-2.161(4)</td>
</tr>
<tr>
<td>Kenya</td>
<td>-6.259(2)*</td>
<td>-2.79(2)</td>
<td>-3.734(2)**</td>
<td>-2.484(4)</td>
</tr>
<tr>
<td>Madagaskar</td>
<td>-5.198(2)*</td>
<td>-4.08(2)**</td>
<td>-3.729(2)**</td>
<td>-3.361(4)</td>
</tr>
<tr>
<td>Fas</td>
<td>-5.576(2)*</td>
<td>-2.56(2)</td>
<td>-7.946(2)*</td>
<td>-3.493(4)**</td>
</tr>
<tr>
<td>Nijer</td>
<td>-7.052(2)*</td>
<td>-4.23(2)**</td>
<td>-5.024(2)*</td>
<td>-3.109(2)</td>
</tr>
<tr>
<td>Nijerya</td>
<td>-7.416(2)*</td>
<td>-3.59(2)**</td>
<td>-3.023(2)</td>
<td>-3.103(2)</td>
</tr>
<tr>
<td>Güney Afrika</td>
<td>-8.332(2)*</td>
<td>-2.80(2)</td>
<td>-2.870(2)</td>
<td>-3.005(2)</td>
</tr>
<tr>
<td>Tanzanya</td>
<td>-7.390(2)*</td>
<td>-2.62(2)</td>
<td>-2.895(2)</td>
<td>-3.148(2)</td>
</tr>
<tr>
<td>Tunus</td>
<td>-7.924(2)*</td>
<td>-3.55(2)**</td>
<td>-2.745(2)</td>
<td>-3.130(2)</td>
</tr>
<tr>
<td>Uganda</td>
<td>-5.563(2)*</td>
<td>-4.42(2)**</td>
<td>-2.643(2)</td>
<td>-2.986(2)</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>-6.916(2)*</td>
<td>-2.78(2)</td>
<td>-2.756(2)</td>
<td>-2.506(2)</td>
</tr>
<tr>
<td>CIPS istatistiği</td>
<td>-6.271*</td>
<td>-3.43*</td>
<td>-3.292*</td>
<td>-2.736**</td>
</tr>
</tbody>
</table>

Not: Parantez içindeki değerler gecikme uzunluklarını göstermektedir. Sabitli ve trendli model için test istatistikleri hesaplanmıştır. *, ** ve *** sırasıyla %1, %5 ve %10 anlamlılık düzeyinde serilerin durağan olduğunu göstermektedir. CADF için %1, %5 ve %10 kritik değerler sırasıyla -4.68, -3.87 ve -3.49’dur. CIPS için %1, %5 ve %10 kritik değerler sırasıyla -2.88, -2.72 ve -2.63’dir.

Değişkenlerin yatay kesit bağımlılığının tespit edilmesinden dolayı, çalışmada ikinci nesil birim kök testleri kullanılmıştır. Panel birim kök test sonuçlarının hesaplandığı Tablo 5’te ülkelerin her biri için CADF ve panelin geneli için ise CIPS istatistik sonuçları görülmektedir. Test sonuçları incelediğinde, CIPS değerlerine göre tüm değişkenlerin %1 seviyesinde düzey değerlerinde durağan olduğu görülmektedir. Durağanlık analizine ülke bazında bakıldığında ise dış ticaret hacmi (DTH) tüm ülkelerde düzey değerlerinde durağandır. Fakat büyüme oranı (BO), nüfus (NÜF) ve mesafe (MES) değişkenleri bazı ülkelerde durağan iken bazılarda birim köklü çıkmıştır. Ekonometrik analizlerde, eşbütünleşme testleri durağan olmayıp farkı alınarak aynı mertebeden durağanlaştırılmış seriler üzerinden gerçekleştirilmiştir. Fakat, çalışmada modele dahil edilen değişkenler düzey değerlerinde durağan olduğu için orta ve uzun dönemi eşbütünleşme iliskisi incelenmemiştir

3.5. Panel Nedensellik Testi

Türkiye ile seçili Afrika ülkeleri arasındaki dış ticaret ilişkisinin Çekim Modeli kapsamında panel veri analizi yöntemi kullanılarak test edildiği çalışmada, serilerin düzey değerlerinde durağan çıkması dolayısıyla eşbütünleşme ilişkisinin varlığı test edilememiş olup nedensellik analizleri ile dış ticaret, büyüme oranı, nüfus ve büyüme oranı değişkenleri arasındaki nedensellik yönünü göstermektedir. Diğer değişkenler arasında ise herhangi bir nedensellik ilişkisine rastlanmamıştır. Dış ticaret hacmindeki değişimin, ülkenin milli geliri üzerinde etkili olduğu şeklinde yorumlanabilir.

4. Sonuç ve Öneriler


Çekim modeli yardımıyla; dış ticaret potansiyelini artıran ve azaltan sebepleri sırasıyla; ekonomik büyüklük değişkeni, ülkelerin ekonomik büyüklüğü, ticaret kapasitesi ile ticaret hacmi üzerinden pozitif yönlü etkisine sahiptir. Bu araştırma, bir ülkenin ticaret hacmini artırmak için ekonomik büyüklüğü artırmaktır. 

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görülmektedir. Bu çalışmalarınaksine mesafe değişkeninin, Türkiye ile seçili Afrika ülkeleri dış ticaret potansiyeli üzerinde istatistik olarak anlamsız olduğu, dış ticaret üzerindeki etkisinin yönü hakkında yorum yapılamadığı sonucuna varılmıştır.


Çalışmada elde edilen sonuçlar, literatürdeki çalışmalarla bilebile birbirine uyumlu çünkü bu getirdiği gibi aynı zamanda da birebir çelişmemektedir. Bu nedenle çalışmadan kullanılan değişkenler özellikle kıyaslama yapılmalıdır.


Yapılan çalışma ile literatürdeki çalışmalar karşılaştırıldığında, nüfus yoğunluğu değişkenin diğer çalışmalarla genel itibariyle uyumlu olduğu görülmektedir, özellikle büyüme oranı ve mesafe değişkeninin diğer değişkenlere göre fazla uyuşmaz sonuçlar verdiği görülmektedir.

Çalışmanın bulgularına göre; Türkiye ile Afrika ülkeleri dış ticaret potansiyeli, nüfus yoğunlukları ile ilişkili olduğu tespit edilmiştir. Bu nedenle ilgili ülkelerde ekonomik iktidar水平, ticari ilişkilerin artması ve ticaret hacminin artması gibi faaliyetlere bağlıdır.

Çekim modeli kullanılarak yapılan çalışmalar incelemeye göre, mesafe değişkeninin diğer değişkenlere göre fazla uyuşmaz sonuçlar verdiği görülmektedir. Ancak, literatürdeki çalışmaların aksine, mesafe faktörü Türkiye ile seçili Afrika ülkelerinin dış ticaret potansiyeli üzerinde istatistik olarak anlamsız olduğu sonucuna ulaşmıştır. Türkiye ile Afrika ülkeleri ticaret potansiyelinin gelişirilmesi, iletişim ve ulaşım ağlarının iyileştirilmesi, yük taşımacılığı maliyetlerinin düşürülmesi gibi faaliyetlere bağlıdır.
Çekim Modelinin Türkiye-Afrika Ülkeleri...


INVESTIGATION OF ONLINE HOTEL REVIEWS WITH TEXT MINING TECHNIQUES: THE CASE OF BAKU HOTELS

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Engin Tengilimoğlu
Selcuk University, Department of Tourism Management, Turkey

Abstract

Online environments turn into platforms which influence tourism sector deeply as a result of advancements on communication technologies to give costumer chance to buying tourism products online and writing reviews about their experience. As more and more travelers contribute their travel experience on travel websites, a huge amount of hotel reviews generated daily. The reviews shared daily in these platforms constitute big data which contain useful information both costumer and suppliers. Necessity of analysing these big data cause to using of data mining techniques on tourism researches. In this research text mining techniques which is natural extension of data mining used to examine 3.275 Baku hotels’ reviews from booking.com. First reviews are prepared for analyze with using pre-processing technique. Then term frequency was constitute by using TF-IDF technique. Consequently, it is found that staff, room and hotel are the most spoken topics on hotel reviews.

Keywords: Online Reviews, Text Mining, Term Frequency.

ONLİNE OTEL YORUMLARININ METİN MADENCİLİĞİ TEKNİKLERİ İLE İNCELENMESİ: BAKÜ OTELLERİ ÖRNEĞİ

Özet


Anahtar Kelimeler: Online Yorumlar, Metin Madenciliği, Kelime Sıklıkları.

1. Giriş


2. Yöntem

Çalışmanın amacı online ortamlarda oteller hakkında hangi konuların daha sık konuşulduğunu tespit etmesi ve sık konuşulan konuların olumu ve olumsuz yorumlara göre farklılaşmış belirlenmesidir. Ayrıca müşteri terimlerini olumu ve olumsuz yorum bırakıkanın teşvik eden olut deneyim unsurlarının anlaşılaması da amaçlanmaktadır.

Metin madenciliği tekniklerinin kullanıldığı çalışmalarda sonuçların daha analiz edilebilmesi için incelenen yorumların aynı dilde yazılmış olması önemli bir konudur (Ertek, vd., 2013). Bununla birlikte doğal dil işleme (Natural Language Process), durdurucu kelimeler (Stopwords) ve gövdeleme
(stem) gibi bazı metin madenciliği tekniklerinin sadece İngilizce dili için desteklendiği (Fazzolari ve Petrocchi, 2018). Bu bakımdan ilgili çalışmalarla incelemeye alınan yorumların ya İngilizce dile çevrilerek (Dirsehan, 2016) ya da sadece İngilizce dilinde yazılımsın yorumlar kullanılarak (Lee vd., 2018) gerçekleştirilmiştir. Bu çalışmada ise ilgili destinasyona ilişkin en fazla yorumun İngilizce dilinde yazılmış olması ve veri ön işleme sürecinde durdurucu kelimeler (stopword) ile gövdelerle (stem) tekniklerinden faydalanılması nedeniyle sadece İngilizce yorumların incelemeye alınması tercih edilmiştir.

2.1 Verilerin Toplanması


2.2 Veri Ön İşleme Süreci

Veri ön işleme süreci, Rapid Miner paket programı üzerinde, incelenen metinler içerisinde harf olmayan karakterlerin silinmesi, durdurucu kelimelerin (stopwords) çıkarılması, kelimelerin maksimum ve minimum uzunluk sınırlarının belirlenmesi, kelimelerin gövdelenmesi (stem) ve bütün harflerin küçük harfe dönüştürülmesi yöntemleri kullanılarak gerçekleştirilmiştir. Bu yöntemler genel olarak metin madenciliği ile ilgili çalışmalarla verilerin ön işleme sürecinde sıklıkla kullanılmaktadır (Ertekd vd., 2013; Dirsehan, 2016). Özetle alınan yorum metinleri içerisinde harfler dışındaki karakterler silinmiş, harflerin tümü küçük harfe dönüştürülmüş, sıklıkla tekrar eden fakat metin analizinde anlam ifade etmeyen (article, bağlaç vb.) terimler çıkarılmış, kelimeler gövdelerine ayrılarak farklı eklerle kullanılan aynı kelimelerin yakalanması sağlanmıştır.


2.3 Verilerin Analizi

Kelime sıfır ve N-Gram analizi sonucunda 1.283 terimden oluşan bir kelime listesi elde edilmiştir. Tablo 1’de elde edilen kelime sıfır listesi yer almaktadır.
Tablo 1. Kelime Sıklık Listesi

<table>
<thead>
<tr>
<th>Nitelik</th>
<th>Toplam</th>
<th>Belge</th>
<th>Olumlu</th>
<th>Olumsuz</th>
<th>Değişim Oranı</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oda</td>
<td>1874</td>
<td>30</td>
<td>959</td>
<td>915</td>
<td>5%</td>
</tr>
<tr>
<td>Otel</td>
<td>1677</td>
<td>30</td>
<td>981</td>
<td>696</td>
<td>41%</td>
</tr>
<tr>
<td>Personel</td>
<td>1367</td>
<td>30</td>
<td>1087</td>
<td>280</td>
<td>288%</td>
</tr>
<tr>
<td>Konum</td>
<td>1026</td>
<td>30</td>
<td>824</td>
<td>202</td>
<td>308%</td>
</tr>
<tr>
<td>İyi</td>
<td>969</td>
<td>30</td>
<td>772</td>
<td>197</td>
<td>292%</td>
</tr>
<tr>
<td>Kahvaltı</td>
<td>743</td>
<td>30</td>
<td>392</td>
<td>351</td>
<td>12%</td>
</tr>
<tr>
<td>Temizlik</td>
<td>592</td>
<td>30</td>
<td>424</td>
<td>168</td>
<td>152%</td>
</tr>
<tr>
<td>GüzEL</td>
<td>534</td>
<td>27</td>
<td>482</td>
<td>52</td>
<td>827%</td>
</tr>
<tr>
<td>Hizmet</td>
<td>524</td>
<td>29</td>
<td>304</td>
<td>220</td>
<td>38%</td>
</tr>
<tr>
<td>Yardım</td>
<td>523</td>
<td>30</td>
<td>471</td>
<td>52</td>
<td>806%</td>
</tr>
<tr>
<td>Manzara</td>
<td>499</td>
<td>25</td>
<td>423</td>
<td>76</td>
<td>457%</td>
</tr>
<tr>
<td>Harika</td>
<td>441</td>
<td>28</td>
<td>402</td>
<td>39</td>
<td>931%</td>
</tr>
<tr>
<td>Dost Canlısı</td>
<td>422</td>
<td>28</td>
<td>380</td>
<td>42</td>
<td>805%</td>
</tr>
<tr>
<td>Konaklama</td>
<td>345</td>
<td>30</td>
<td>230</td>
<td>115</td>
<td>100%</td>
</tr>
<tr>
<td>Şehir</td>
<td>344</td>
<td>28</td>
<td>198</td>
<td>146</td>
<td>36%</td>
</tr>
<tr>
<td>Havuz</td>
<td>338</td>
<td>28</td>
<td>208</td>
<td>130</td>
<td>60%</td>
</tr>
<tr>
<td>Konforlu</td>
<td>299</td>
<td>28</td>
<td>262</td>
<td>27</td>
<td>608%</td>
</tr>
<tr>
<td>Zaman</td>
<td>299</td>
<td>30</td>
<td>109</td>
<td>190</td>
<td>-43%</td>
</tr>
<tr>
<td>Yatak</td>
<td>298</td>
<td>30</td>
<td>170</td>
<td>128</td>
<td>33%</td>
</tr>
<tr>
<td>Mü kemmel</td>
<td>295</td>
<td>23</td>
<td>282</td>
<td>13</td>
<td>2069%</td>
</tr>
<tr>
<td>Giriş</td>
<td>273</td>
<td>27</td>
<td>91</td>
<td>182</td>
<td>-50%</td>
</tr>
<tr>
<td>Bakü</td>
<td>257</td>
<td>28</td>
<td>203</td>
<td>54</td>
<td>276%</td>
</tr>
<tr>
<td>Muhteşem</td>
<td>251</td>
<td>20</td>
<td>239</td>
<td>12</td>
<td>1892%</td>
</tr>
<tr>
<td>Yiyecek</td>
<td>250</td>
<td>29</td>
<td>149</td>
<td>101</td>
<td>48%</td>
</tr>
</tbody>
</table>


Personel ve konuma ilişkin değişim incelendiğinde (%288 \%308) ise olumlu düşüncelerin daha yoğun olduğu görülmektedir. Dolayısıyla genel anlamda 5 yıldızlı Bakü otellerinde personel ve konuma ilişkin memnuniyet durumu olduğu söylenebilir. Ayrıca personel müşterilerin olumlu yorum bırakma nedenleri arasında ilk sıradada yer almaktadır (1087 olumlu yorum). Bu bağlamda personellerin
eğitilmesi ve bilgilendirilmesi otellerin online ortamlarda olumlu yorum kazanması açısından önemli bir konudur (Dirsehan, 2016).

2.4 N-Gram Analizleri

Tablo 1’de verilen terimlerin hangi terimler ile birlikte kullanıldığı konuya ilişkin daha ayrıntılı bilgi sunmaktadır. Örneğin “oda” terimi hem olumu hem de olumsuz yorumlarda çok sık kullanılmıştır. Bu terimin hangi terimle birlikte olumu ve hangi terimle birlikte olumsuz yorumlarda kullanıldığı tespit etmek odalar ile ilgili hangi konularda şikayet hangi konularda memnuniyet olduğunu anlamak açısından önemlidir. Bu bağlamda yukarıda sık geçen terimlerin hangi terimlerle birlikte kullanıldığını yapılan N-gram analizi ile belirlenmiştir. Tablo 2’de “oda” terimine ilişkin yapılan n-gram analizlerine yer verilmiştir.

Tablo 1. N-gram Analizleri

<table>
<thead>
<tr>
<th>Nitelik 1</th>
<th>Nitelik 2</th>
<th>Toplam</th>
<th>Belgede Toplam</th>
<th>Olumlu</th>
<th>Olumsuz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oda</td>
<td></td>
<td>1874</td>
<td>30</td>
<td>959</td>
<td>915</td>
</tr>
<tr>
<td>Temizlik</td>
<td></td>
<td>180</td>
<td></td>
<td>108</td>
<td>72</td>
</tr>
<tr>
<td>Güzel, Harika, İyi</td>
<td>149</td>
<td></td>
<td>137</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Manzara</td>
<td></td>
<td>91</td>
<td></td>
<td>68</td>
<td>23</td>
</tr>
<tr>
<td>Size</td>
<td></td>
<td>90</td>
<td></td>
<td>72</td>
<td>18</td>
</tr>
<tr>
<td>Büyük</td>
<td></td>
<td>69</td>
<td></td>
<td>64</td>
<td>5</td>
</tr>
<tr>
<td>Konforlu</td>
<td></td>
<td>68</td>
<td></td>
<td>64</td>
<td>4</td>
</tr>
<tr>
<td>Konum</td>
<td></td>
<td>46</td>
<td></td>
<td>34</td>
<td>12</td>
</tr>
<tr>
<td>Kırlı</td>
<td></td>
<td>44</td>
<td></td>
<td>1</td>
<td>43</td>
</tr>
<tr>
<td>Sigara</td>
<td></td>
<td>29</td>
<td></td>
<td>6</td>
<td>23</td>
</tr>
<tr>
<td>Upgrade</td>
<td></td>
<td>21</td>
<td></td>
<td>15</td>
<td>6</td>
</tr>
</tbody>
</table>


Tablo 2. Oda ile Kullanılan Terimler

<table>
<thead>
<tr>
<th>Nitelik 1</th>
<th>Nitelik 2</th>
<th>Toplam</th>
<th>Belgede Toplam</th>
<th>Olumlu</th>
<th>Olumsuz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personel</td>
<td></td>
<td>1367</td>
<td>30</td>
<td>1087</td>
<td>280</td>
</tr>
<tr>
<td>Dost Canlısı</td>
<td>253</td>
<td></td>
<td>237</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Harika, Güzel, Muhteşem</td>
<td>240</td>
<td></td>
<td>230</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Yardımsever</td>
<td>164</td>
<td></td>
<td>156</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Otel</td>
<td></td>
<td>114</td>
<td></td>
<td>86</td>
<td>28</td>
</tr>
<tr>
<td>Hizmet</td>
<td></td>
<td>29</td>
<td></td>
<td>24</td>
<td>5</td>
</tr>
<tr>
<td>Resepsiyon</td>
<td>72</td>
<td></td>
<td>41</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Temizlik</td>
<td></td>
<td>62</td>
<td></td>
<td>55</td>
<td>7</td>
</tr>
<tr>
<td>Kaba</td>
<td></td>
<td>10</td>
<td></td>
<td>2</td>
<td>8</td>
</tr>
</tbody>
</table>

“Oda” terimi en sık temizlik terimi ile birlikte kullanılmıştır. Olumlu ve olumsuz yorum dağılımına bakıldığında ise hem olumu hem de olumsuz yorumlarda sık geçtiği görülmektedir. Dolayısıyla bazı müşterilerin oda temizliğinden memnun olduğu ve bazalarının ise memnun olmadığı anlaşmaktadır. Örneğ olarak bir yorumda olumu bölümde “Modern Temiz oda” olarak geçmekte iken başka bir yorumda olumsuz bölümde “Temiz olmayan oda” olarak geçmektedir. Genel anlamda oda büyüklüğü...
konusunda bir memnuniyet durumu olduğu söylenebilir. Tablo 2’dede ifade edilen diğer terimlerde bu şekilde yorumlanabilir.


Tablo 4. Olumsuz Yorumlarda Olumlu Yorumlardan Daha Sık Geçen Bazı Terimler

<table>
<thead>
<tr>
<th>Nitelik 1</th>
<th>Toplam</th>
<th>Belgide Toplam</th>
<th>Olumu</th>
<th>Olumsuz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banyo, Duş, Wc</td>
<td>456</td>
<td>27</td>
<td>121</td>
<td>335</td>
</tr>
<tr>
<td>Giriş-Çıkış</td>
<td>273</td>
<td>27</td>
<td>91</td>
<td>182</td>
</tr>
<tr>
<td>Eski</td>
<td>189</td>
<td>29</td>
<td>75</td>
<td>114</td>
</tr>
<tr>
<td>AC</td>
<td>170</td>
<td>28</td>
<td>22</td>
<td>148</td>
</tr>
<tr>
<td>Wifi</td>
<td>120</td>
<td>26</td>
<td>32</td>
<td>88</td>
</tr>
</tbody>
</table>


3. Sonuçlar


Olumlu ve olumsuz yorumlarda sık kullanılan terimlere ilişkin n-gram analizi uygulanarak hangi terimlerle hangi alanda kullanıldığı tespit edilmiştir. Örneğin oda terimi olumlu alanda en sık temiz terimi ile birlikte kullanılırken olumsuz alanda genel olarak kırılgı ve koku terimleri ile birlikte kullanıldığı görülmüştür. Dolayısıyla odaların temizlik durumu hem olumlu hem de olumsuz yorum bırakma konusunda tüketicilerin önemsediği bir konudur.

3.1 Bakü Otellerine İlişkin Sonuçlar


5 yıldızlı Bakü otellerine ilişkin olumsuz yorumlarda sıkça geçen bir diğer terim banyodur. Müsteriler tarafından bu konuda sıkça su eksikliği gibi konularda dolayı sürekli olumsuz yorumlama konulmuştur. Ek olarak giris çıkış işlevlerinin uzun süresi, klima ve Wifi de 5 yıldızlı Bakü otellerine ilişkin online yorumlarda sık konulan olumsuz durumlardandır. Özellikle otellerin birbirlerine ilişkin rekabet üstünlüğü sağladığı genel anlamda müşterilerin olumsuz deneyim yaşadığı bu konularda y规避ları iyileştirmelerle mümkün olacaktır.

Kaynaklar


ASSESSMENT OF THE CREDIT VOLUME ON THE AXIS OF THE CBRT’S INTEREST RATE DECISIONS

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Seyfettin Caner Kuzucu
Selcuk University, Department of Banking and Insurance, Turkey

Abstract

Following the global financial crisis, the CBRT has revised its ultimate goal since 2010 to ensure and maintain price stability as well as financial stability. In this framework, it aims to increase the effectiveness of policies by including new policy tools in traditional monetary policy practices. Generally, monetary policy covers the decisions taken by central banks to reach targets such as price stability and financial stability by using various instruments. As a requirement of the modern economic system, monetary policy instruments have a direct impact on many financial variables such as growth in credit volume, expectations and exchange rate within the framework of monetary transmission mechanism. In the first stage of the monetary transfer mechanism, which can be explained in three stages, the transfer of the changes in monetary policy implementations to variables such as interest rates, asset prices, expectations and exchange rate is taken into consideration and the ability of these variables to affect the demand for domestic and imported goods is taken into consideration. In the third stage, total demand and domestic pricing behavior are determined and domestic prices and import prices shape inflation.

Analyzing the market responses to the monetary policy changes implemented by the central banks in terms of periods and interpreting the results are extremely important in terms of evaluating the effectiveness of the monetary policy. The main objective of this study is to identify the relationship between the periods 2010-2018 between Turkey and the monetary policy instrument used in the policy interest rate, also called 1-week repo interest rate on loans extended by the banking sector.

In the study as a method; short and long term relationships; ARDL Boundary Test approach and Granger Causality Test. As a result of the study; There is a positive relationship between the policy interest rate and the loans extended in the banking sector both in the long and short term.

Keywords: ARDL, Granger Causality Analysis, Repo, CBRT.

TCMB’NİN FAİZ KARARLARI EKSENİNDE KREDİ HACMİNİN DEĞERLENDİRİLMESİ

Özet

Merkez bankalarının dönemler itibariyle uyguladığı para politikası değişikliklerine piyasaların verdiği tepkileri analiz etmek ve sonuçlarını yorumlayabilmek uygulanan para politikasının etkinliğini değerlendirerek açısından son derece önemlidir. Bu çalışmanın temel amacı 2010-2018 dönemleri arasında Türkiye’de para politikası aracı olarak kullanılan para politika faiz oranları ile bankacılık sektöründe kullanılan krediler arasındaki ilişkiyi tespit edebilmektir.

Yöntem olarak çalışımda; kısa ve uzun dönem ilişkiler; ARDL Sınır Testi yaklaşımı ve Granger Nedensellik Testi ile analiz edilmiştir. Çalışmanın sonucunda; politika faiz oranları ile bankacılık sektöründe kullanılan krediler arasında uzun ve kısa dönemde pozitif yönlü bir ilişkinin olduğu diğer bir ifade ile her iki değişkenin de uzun dönemde birlikte hareket ettiği ve söz konusu iki değişken arasında çift yönlü nedensellik ilişkisi tespit edilmiştir.

**Anahtar Kelimeler:** ARDL, Granger Nedensellik Analizi, Repo, TCMB.

1. Giriş


Merkez bankalarının dönemler itibariyle uyguladığı para politikası değişikliklerine piyasaların verdiği tepkileri analiz etmek ve sonuçlarını yorumlayabilmek uygulanan para politikasının etkinliğini değerlendirerek açısından son derece önemlidir. Bu çalışmanın temel amacı 2010-2018 dönemleri arasında Türkiye’de para politikası aracı olarak kullanılan para politika faiz oranları ile bankacılık sektöründe kullanılan krediler arasındaki ilişkiyi tespit edebilmektir.

2. Literatür

Son yıllarda parasal aktarım mekanizması konusunda yapılan çalışma sayısı bir artış göze çarpan bir artış göstermekle birlikte, sadece faiz kanalını ele alıp inceleyen çalışma sayısı az olduğu görülmektedir.


görülmüş, faiz kanalının küçük firmalar için daha güçlü olduğu sonucu çıkarılmıştır. Ayrıca parasal bir daralmanın ardından sermaye yoğun sektörlerin sermaye stoklarını daha fazla azaltması ve hizmet sektörünün önemli ölçüde etkilenmemesi faiz kanalının sermaye yoğun sektörler için daha önemli olduğunu göstermiştir.


Yue ve Zhou (2007) ise çalışmalarda, Granger nedensellik testini kullanarak Çin’de para politikası mekanizmasının geleneksel faiz kanalı üzerinde işlemeklendiği sonucuna ulaşılmışlardır. Sonuçlar ne yatırım harcamaları ve piyasafıza faiz oranlarında ne de tüketim harcamaları ve piyasaya faiz oranlarında bir nedensellik olduğunu göstermiştir. Çin’de para politikasının aktarımının engellendiği düşünülen nedenlere üç tanesi; faizlerin liberalizasyonu, varlığı dayalı denklem kymetleştirmeye ve varlığı dayalı denklem yönteminin faiz oranlarının en önemli artışı ortaya çıkığı şeklinde sıralanmıştır.

Mehrotra (2007), parasal rejimleri farklı ancak birbirine sıkı bağlı üç ekonomi olan Japonya, Hong Kong ve Çin’de deflasyon dönemi kapsayacak şekilde, çikış ekonomi yapışal vektör ötesi (SVAR) modellerini tahmineder, döviz ve faiz oranının faiz oranlı sonucuna ulaşılmışlardır. Sonuçlar ne yatırım harcamaları ve piyasafıza faiz oranlarında ne de tüketim harcamaları ve piyasaya faiz oranlarında bir nedensellik olduğunu göstermiştir. Çin’de para politikasının aktarımını engelli olduğu düşünülen nedenlere üç tanesi; faizlerin liberalizasyonu, varlığı dayalı kymetleştirmeye ve varlığı dayalı denklem yönteminin faiz oranlarının en önemli artışı ortaya çıkığı şeklinde sıralanmıştır.


kredi kanalına sınırlı destek veren bulgular geleneksel faiz kanalının işlediği ve ardından da nominal gelirde azalmaya yol açması ile ifade edilen para sonrası veya faiz kanalı ile de uyum içerisinde olduğunu gözlemlemiştir.


3. Veri Yöntem Analiz

Durağanlık kavramı, bir serinin oralamasy, varyansi ve otokovaryansının farklı zaman dilimlerinde değişmesini ifade eder. Seriler arasında sahte ilişkiler vermemek ve bir sonun etkisi için gerekli olabilecek belirlenmesini içerir.

Tablo 1. Faiz Kararları Serisinin ADF Birim Kök Testi Sonuçları

<table>
<thead>
<tr>
<th>ADF Test İstatistiği</th>
<th>Normal Form</th>
<th>Birinci Farklar Cinsinden</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.661546</td>
<td>-4.099906</td>
</tr>
<tr>
<td>%1</td>
<td>-2.632688</td>
<td>%1 -2.634731</td>
</tr>
<tr>
<td>%5</td>
<td>-1.950687</td>
<td>%5 -1.951000</td>
</tr>
<tr>
<td>%10</td>
<td>-1.611059</td>
<td>%10 -1.610907</td>
</tr>
<tr>
<td>Prob.</td>
<td>0.9742</td>
<td>0.0002</td>
</tr>
</tbody>
</table>

Tablo 2. Kredi Hacmi Serisinin ADF Birim Kök Testi Sonuçları

<table>
<thead>
<tr>
<th>ADF Test İstatistiği</th>
<th>Normal Form</th>
<th>Birinci Farklar Cinsinden</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.466702</td>
<td>-2.892157</td>
</tr>
<tr>
<td>%1</td>
<td>-2.634731</td>
<td>%1 -2.634731</td>
</tr>
<tr>
<td>%5</td>
<td>-1.951000</td>
<td>%5 -1.951000</td>
</tr>
<tr>
<td>%10</td>
<td>-1.610979</td>
<td>%10 -1.610907</td>
</tr>
<tr>
<td>Prob.</td>
<td>1.0000</td>
<td>0.0051</td>
</tr>
</tbody>
</table>

Tablolarda gösterilen ADF test istatistiği incelendiğinde %1, %5 ve %10 anlamlı düzeylerinde Mac Kinnon kritik değerlerinden mutlak olarak küçük ve prob. değerleri de kritik değerlerden büyük olduğu için H0 hipotezi reddedilemez mesaj verilirken, birinci dereceden farkı alınan serilerin test sonuçları değerlendirildiğinde test istatistiği değeri %1, %5 ve %10 anlamlı düzeylerinde Mac Kinnon kritik değerlerinden mutlak olarak büyük ve prob değerlerinde 0,05 kritik değeri geçilmediği için H0 hipotezi reddedilir ve serilerin durağan olduğu kabul edilir. Sonuç olarak serilerin durağan olmaması nedeniyle 1.dereceden farkları alınarak durağan hale getirilmiştir.

Serilerin durağanlık analizinin ardından, değişkenler arasındaki ilişki için en uygun geçikme uzunluğunu belirlenmesi gerekmektedir. Çalışmada en uygun geçikme uzunluğunu belirlenmesinde Akaike Bilgi Kriteri (AIC) kullanılmış ve geçikme uzunluğu 2 olarak belirlenmiştir. Gecikme uzunluğunu belirlenmesinin ardından ARDL sınır testi uygulandı.

4. ARDL Sınır Testi


Tablo 3. ARDL Sınır Testi Sonuçları

<table>
<thead>
<tr>
<th>Test Statistic</th>
<th>Value</th>
<th>k</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>5.938040</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Significance</th>
<th>I0 Bound</th>
<th>I1 Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>% 10</td>
<td>3.02</td>
<td>3.51</td>
</tr>
<tr>
<td>% 5</td>
<td>3.62</td>
<td>4.16</td>
</tr>
<tr>
<td>% 2.5</td>
<td>4.18</td>
<td>4.79</td>
</tr>
<tr>
<td>% 1</td>
<td>4.94</td>
<td>5.58</td>
</tr>
</tbody>
</table>

Modelde kullanılabilecek değişkenlerin seviyede durağan ya da birinci farkta durağan olup olmamasına bağlı olmadan sınır testini uygulanmak mümkün değildir. Bu sebeple sınır testini uygulamadan

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once değişkenlerin durağanlık mertebelerini belirlemeye gerek yoktur. İkinci farkta durağan değişkenlerde ARDL modeli uygulanamadığı için değişkenlerin ikinci farkta durağan olma ihtimaline karşı sınanması gerektmektedir.

Tablo 4. Granger Nedensellik Tablosu

<table>
<thead>
<tr>
<th>Hipotezler</th>
<th>Veri</th>
<th>All</th>
<th>Prob. Değeri</th>
</tr>
</thead>
<tbody>
<tr>
<td>Krediler, faiz kararlarının nedenidir</td>
<td>34</td>
<td>7.062770</td>
<td>0.0293</td>
</tr>
<tr>
<td>Faiz kararları, kredilerin nedenidir</td>
<td>16.06830</td>
<td>0.0003</td>
<td></td>
</tr>
</tbody>
</table>

ARDL yaklaşımda kısıtsız hata düzeltme modeli kullanıldığından, Engle-Granger testine göre daha iyi istatistiksel özelliklere sahiptir ve küçük örneklerde Johansen ve Engle-Granger testlerine göre daha güvenilir sonuçlar verir.

5. Sonuç

Para politikası kararlarındaki değişikliğin reel ekonomi hangi kanallar ile nasıl etkilediğine ilişkin bulgular politika belirleme sürecinde kullanılan önemli parametrelerden biridir.

Bu çalışmada, Türkiye için parasal aktarım kanallarından biri olan faiz kanaht, Granger Nedensellik Testi ve ARDL sınırlı testi kullanarak analiz edilmiştir.

F-istatistik değeri üst sınır değerlerinden daha büyük olduğu için % 1 anlamlılık düzeyinde değişkenler arasında uzun dönemli ilişki vardır (uzun dönem ilişkinin olmadığını ileri süren boş hipotez reddedilmektedir).

Hata düzeltme terimi katsayısı (-0.839126) olması gerektiği gibi negatif ve istatistiki olarak anlamlı olması uzun dönemli ilişkiyi doğrulamaktadır.

Değişkenler arasındaki uzun dönem dengesinden kısa süreli sapmaların her çeyrekte %83,91 uzun dönemli dengeye doğru düzeldiğini göstermektedir.

Kredi hacmi ile faiz oranları arasında çift yönlü nedensellik ilişkisini tespit edilmiştir

Kaynaklar

THE RELATIONSHIP BETWEEN LABOR FORCE PARTICIPATION AND EMPLOYMENT: SECTORAL FINDINGS

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Abstract

Analysis of the Turkish labor market data reveals a strong correlation between labor force participation and employment. The magnitude of this correlation differs with respect to the industry that leads the change in employment. This study aims to address these sectoral differences using time series and microeconometric analysis. Time series analysis uses quarterly data on employment and labor force participation available on Turkish Statistical Institute online database and estimates models of quarter-on-quarter difference using seasonally adjusted data. Empirical evidence indicates that, in the short-run, compared with employment in industry and services sectors, employment in the construction sector exhibits a weaker (stronger) association with labor force (unemployment). In other words, to the extent that pick-up (slow down) in economic activity is led by the construction sector, its positive (adverse) impact on unemployment is more pronounced. Microeconometric analysis uses annual labor force survey micro datasets and models new employees’ labor market situation in the previous year and current labor market situation of individuals who were employed last year but not currently employed. Empirical results indicate that majority of new employees in the construction sector were unemployed in the previous year whereas half of new employees in industry and services sectors were out of labor force. Similar sectoral differences are found among individuals who leave their jobs. The fact that the relation between employment and labor force participation is stronger for women and that the share of males in construction employment is very high amplifies the sectoral differences. However, similar differences are also found among male employees.

Keywords: Employment, Labor Force.

İŞGÜCÜNE KATILIM VE İSTİHDAM İLİŞKİSİ: SEKTÖREL BULGULAR

Özet

Kadınlardaki istihdam gelişmelerinin daha yüksek bir oranda işgücü ile ilgili olması ve inşaat sektörü çalışanlarının büyük çoğunlukla erkek olması söz konusu sektörel farklılığı artırmakla birlikte, erkekler arasında da benzer bir sektörel fark bulunmaktadır.

**Anahtar Kelimeler:** İstihdam, İşgücü.
ECONOMIC IMPACTS OF AIRLINE DEREGULATION: AN EVALUATION FOR THE E7 COUNTRY GROUP

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Abstract

The government and the market share an optimal combination of limited resources, roles in the economic system to increase social welfare. There may be changes in the role of government and market in the provision of goods and services. The public sector may completely abandon the production of certain goods and services by intervening in the functioning of the market over time or under certain regulations through regulation, deregulation and privatizations. The aviation sector has become increasingly competitive with developments such as deregulation, liberalization, privatization and open skies agreements, particularly in globalization. The effects of deregulation from these developments are the basis of this study. The element intended by deregulation, which can be simply expressed as reducing or completely eliminating public restrictions; decreasing legal regulations and increasing productivity in the sector. Airway deregulation is known to achieve significant benefits in the sector. Following the liberalization movements in the airline transport sector, global growth, passenger capacity increases and ticket prices decreased.

The main objective of the study in Turkey also found that E-7 (emerging 7) deregulation of the airline industry group in the country context, it is to make an assessment outlining the economic impacts of the industry. In 1980s, after the influence in the USA, they started deregulation for aviation in different countries. The effect in Turkey in 2003, the largest air transport deregulation that began to be felt in the ratio has changed the structure of the Turkish aviation industry has gained positive momentum and growth increasing competition in the sector. In this study, air transport deregulation and the sectoral economic indicators of all countries in the E-7 country group were evaluated and cross-country comparisons were made. As a result, the structural reform brought by deregulation; it has been shown that many companies can enter this sector and have positive effects in many areas such as competition, pricing, service quality, number of aircraft, number of flights, use of airports, number of targets and employment.

Keywords: Air Transport Deregulation, Liberalization, E-7 Countries.

HAVAYOLU TASIMACILIĞI DEREGÜLASYONLARININ EKONOMİK ETKİLERİ: E7 ÜLKE GRUBUNA YÖNELİK BİR DEĞERLENDİRME

Özet

deregülasyonu ile sektörde önemli faydalar elde edildiği bilinmektedir. Havayolu ulaştırma sektöründeki serbestleşme hareketlerinden sonra küresel anlamda sektör büyümesinde, yolcu kapasitelerinde artışlar, bilet fiyatlarında azalışlar gündeme gelmiştir.

Çalışmanın temel amacı, Türkiye’nin de içinde bulunduğu E-7 (gelişmekte olan 7) ülke grubu bağlamında havayolu taşımacılığı sektöründeki deregülasyonun, sektördeki ekonomik etkilerini ortaya koyan bir değerlendirme yapmaktır. 1980’li yıllarda ABD’dedeki etkisi görüldükten sonra farklı ülkeler de havacılığa yönelik deregülasyon çalışmalarını başlamışlardır. Türkiye’de 2003 yılında etkisi büyük oranda hissedilmeye bağılan havayolu taşımacılığı deregülasyonu Türk havacılık sektörünün yapısını değiştirmiş ve rekabeti arttırmış sektör boyunca pozitif bir ivme kazandırmıştır. Bu çalışmada, E-7 ülkeye grabunda yer alan tüm ülkelerin havayolu taşımacılığı deregülasyonlarını ve sonucundaki sektörel ekonomik göstergeleri değerlendirilerek, ülkeler arası kıyaslama yapılmıştır. 

Sonuç olarak, kuralsızlaştırmanın getirdiği yapısal reformun; piyasaya girişi serbest bırakıldığı ve bu sayede birçok firmanın bu sektörde girebildiği ve rekabet, fiyatlandırma, hizmet kalitesi, uçuş sayısı, hava alanlarının kullanımı, hedeflerin sayısı ve istihdam gibi birçok alanda olumlu etki yaptığı ortaya konmuştur.

Anahtar Kelimeler: Havayolu Deregülasyonu, Liberalleşme, E7 Ülkeleri.

1. Giriş


Sayışt imalat ve hizmet endüstrisinde ve havayolu şirketlerinde çok belirgin bir şekilde kantürlüms olan dünya ekonomisinin küreselleşmesi, ABD ve diğer hükümetleri koruma sürecini durmuştur uzaq ve açık pazarlara yönelik uygulayın zorlamıştır. Havacılık sektörü açısından deregülasyon uygulamaları değerlendirme tarihşel süreç içerisinde başta ABD olmak üzere küresel boyutta birçok ülkede...
özellikli gelişmeler yaşandığı görülmektedir. Havacılık sektöründe güvenlik, emniyet, trafik kontrolü gibi unsurlar hava serbestliği açısından iktisadi faaliyetler gibi herhangi bir kısıtlama olmadan yerarlanılan unsurlar olmaktadır.

Ülkeler içinde ve arasında uzun mesafe taşımacılığının birincil modu olan hava taşımacılığı, ekonomik aktivitenin çok önemli bir kolaylaştırıcı haline gelmiştir. Türkiye’nin de aralarında bulunduğu E7 ülke grubu çerçevesinde, ülkeler arası sonuçlara yönelik kıyaslamalar ile regülasyonların olumsuzlukları vurgulanarak deregülasyonları ekonomiye olan etkilerinin ne olursa olsun, havayollarının özelleştirilmesi ve ardından bir ticari odaklı bir bakış açısına eşlik etmiştir. Özelleşme, sömürgecilikten kalkınmaya ve küreselleşme eğilimlerinin bir sonucu olarak havayolu sektöründe hizmet çeşitliliğinin gelişmesine neden olmuştur. Bu durum havayolu işletmelerin hizmetlerini, rakiplerine göre farklılaştırma yoluna zorlamıştır.

2. Havayolu Deregülasyonu


2.1 Havayolu Deregülasyonu Tarihsel Gelişimi


3. E7 Ülkelerinde Havacılık Deregülasyon Uygulamalarına Genel Bakış


kolaylaştırmıştır (ICAO, 2013d). Politika reformlarındaki bu kademeli uygulama Çin'deki mülkiyet, yönetim ve düzenleyici fonksiyonların kademeli olarak ayrılması yol açmıştır. 


4. Havayolu Taşımacılığı Deregülasyonunun Ekonomik Etkileri: Temel Makroekonomik ve Sektörel Göstergeler

Hava taşımacılığı ve düzenleme politikaları devletin: ekonomik düzenleyici işlevlerini yerine getirmektediği malyetlerini azaltarak, tüketiciyi yararlarını ve seçeneklerini arttırması; hava sağlığı uygulamasını iyileştirme; pazarda daha rekabetçi iş fırsatlarını yaratmaya yönelik bir takım politika kararlarını içermektedir.


Havacılık sektörü genel olarak havalimanı, uçak ve yolcu sayısı gibi birçok unsurda önemli ilerlemeler kaydetmiştir. Sektördeki gelişim ve ilerlemeler ekonomik göstergeler üzerinde de olumlu katkılar yaratmaktadır. Deregülasyonların ekonomiye olan etkileri; [Serbestleşme → Yeni Havayolu İşletmeleri ↑ → Fiyatlar ↓ → Hava Trafiği ↑ → Ekonomik Büyüme ↑ → İstihdam ↑] bağlantısı ile ifade edilmektedir (Teyyare, 2018, s. 10). Bu bağlantı ile ilgili olarak aşağıdaki kısımlarda ele alınan ülkeler bazında ekonomik büyümeye, enfloşonyon ve istihdam rakamları temel makroekonomik göstergeler olarak ele alınmaktadır.

4.1 Ekonomik Büyüme

(Wensveen, 2007, s. 16). Havayolu ulaştırma sektöründeki büyüme ile ekonomik büyüme arasındaki ilişki iki yönlü bir ilişkidir: havayolu ulaştırma ekonominin verimli işleyişine katkıda bulunur ve ekonomik büyüme hava yolu ulaştırma talebini teşvik eder (Burghouwt, 2016, s. 15). Havayolu taşımacılığı ekonomilerdeki birçok unsur ile yakından bağlantılı bulunmaktadır. Aşağıdaki şekilde ekonomi ve havayolu taşımacılığı arasındaki ilişkiler belirtilmektedir.

**Şekil 1. Ekonomik Büyüme ve Bağlantısal Büyümenin Verimlilik Döngüsü**

Ekonominin ve hava yolu taşımacılığı arasındaki korelasyon, analistler tarafından çeşitli araştırmalarla ortaya konmuştur. Genel kabul görmüş bir kural, dünyadaki ekonomik büyümedeki her %1’lik bir artış için dünya hava trafiğinde %2,5 ila 3 bir artış olduğunu göstermektedir (Wensveen, 2007, s. 16). Havayolu ulaştırma olana talep arttıkça bu sektördeki istihdam, ticaret gibi birçok ekonomik alanda meydana gelen unsurlar ülke ekonomilerine doğrudan fayda sağlamaktadır (Teyyare, 2018, s. 109). Havacılık bağlantısı açıklığı büyüme, daha kısa ve daha uygun seyahat süreleri, daha yüksek rekabet ve daha düşük ücretlere yol açmaktadır. Bu durum tüketici, bireyler ve işletmeler için düşük seyahat maliyetleri yol açmaktadır. Bu düşük “genelleştirilmiş” seyahat maliyetleri doğrudan tüketicinin refahı kazancı veya tüketici rantına dönüşür (Burghouwt, 2016, s. 15).

Havacılık küresel olarak 65,5 milyon kişi istihdam etmekte ve (doğrudan, dolaylı, uyarılmış ve turizm katalitik etkiler dahil) GSYİH’ye 2,7 trilyon dolar katkı sağlamaktadır (ATAG, 2018, s. 4). Aşağıdaki şekilde E7 ülkelerine yönelik olarak GSYİH yıllık yüzde büyümesi gösterilmiştir.

**Kaynak:** (Burghouwt, 2016, s. 5).

**Şekil 2. E7 Ülkelerinde GSYİH Büyümesi (Yıllık, %) (1965-2018)**

4.2 Enflasyon


<table>
<thead>
<tr>
<th>Dönem</th>
<th>Ülke</th>
<th>Dönem Ortalaması</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986-2018</td>
<td>Brezilya</td>
<td>333,06</td>
</tr>
<tr>
<td>2003-2018</td>
<td>Türkiye</td>
<td>9,7</td>
</tr>
<tr>
<td>1991-2018</td>
<td>Hindistan</td>
<td>7,4</td>
</tr>
<tr>
<td>1994-2018</td>
<td>Çin</td>
<td>3,6</td>
</tr>
<tr>
<td>2000-2018</td>
<td>Endonezya</td>
<td>6,7</td>
</tr>
<tr>
<td>1980-2018</td>
<td>Rusya</td>
<td>67,65</td>
</tr>
<tr>
<td>1982-2018</td>
<td>Meksika</td>
<td>25,09</td>
</tr>
</tbody>
</table>

Kaynak: (The World Bank ) verilerinden derlenmiştir.

Not: Ülke bazında dönemler havacılık sektöründe deregülasyon uygulamalarının başladığı tarihlerde göre ele alınmıştır.


Yukarıda belirtilen yıllarda enflasyon aynı zamanda büyük dünya ekonomilerini durgunlukta hava trafiğinin ve havayolu karının düşmesine neden olmuştur (Wensveen, 2007, s. 16).

4.3 Yolcu Sayısı ve Yük Miktarları


Kaynak: (World Bank Open Data)

Hindistan hükümeti istatistiklerine göre, açık gökyüzü politikasının kabul edilmesinden bu yana geçen süre uluslararası hava kargo trafiğinde güçlü bir büyüme kaydetmiştir, 1991'de yaklaşık 300.000 tondan 1998'de 420.000 tonaya yükselmiştir. Hava taşımacılığındaki patlama, ülkenin ekonomik serbestleşmesinin ilerlemesiyle tetiklenmiştir (ICAO, Case Studies on Liberalization, 2003, s. 5).


4.4 Kayıtlı Havayolu Şirketleri Kalkış Sayıları


<table>
<thead>
<tr>
<th></th>
<th>Brezilya</th>
<th>Çin</th>
<th>Endonezya</th>
<th>Hindistan</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>832683</td>
<td></td>
<td>4692008</td>
<td>117500</td>
</tr>
<tr>
<td>1980</td>
<td>144800</td>
<td>885094</td>
<td>104377</td>
<td>772925</td>
</tr>
</tbody>
</table>

Kaynak:(World Bank Open Data)

Şekil 5. E7 Ülkelerinde Havayolu Yük Taşımacılığı (1970-2015, bin-ton-km)

**Tablo 2. E7 Ülkelerinde Kayıtlı Havayolu Şirketleri Kalkış Sayıları (milyon)**
Yukarıdaki tablo incelendiğinde en yüksek kalkış sayısına sahip ülkenin Çin olduğu görülmektedir. Çin’in dönem ortalaması 1,8 milyar olarak gerçekleşmiştir. İkinci sırada ise Brezilya 623 milyon kalkış ortalamasına sahip bulunmaktadır. Türkiye ise 416 milyon kalkış rakamı ile E7 ülke grubu içerisinde beşinci sırada yer almaktadır.

5. Sonuç

Havayolları, hava limanları ve hava seyrüsefer hizmet sağlayıcının özelleştirilmesi ve ticarileştirilmesi adına hükümetler birçok devlet kuruluşunun mülkiyetini ve yönetimini azaltmakta, tüm ekonomik sektörlerde küreselleşme ve serbestleşmeye ilgiyle daha geniş etkiler meydana gelmiştir. Ancak, özelleştirmenin başarılı olması kolay olmadığı da belirtilmeli. İlk özelleştirme planlarının birçoğu, süreçte karşılaşılan karmaşıklıklar veya havayollarının ekonomik durum veya yerel şartlar nedeniyle ertelenmek zorunda kalmıştır. Ancak çoğunluk durumda özelleştirme niyeti devam etmektedir.


Kaynaklar


Iata. (2019). *India’s Air Transport Sector.* International Air Transport Association (Iata).


INSTITUTIONAL QUALITY AND INTERNATIONAL TOURISM REVENUES:
PANEL CAUSALITY ANALYSIS IN THE CASE OF FIVE MEDITERRANEAN
COUNTRIES

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Abstract

Institutional quality is expected to have a positive impact on tourism flows as it reduces transaction costs and uncertainty for decision-making units in the tourism sector. In addition, institutional quality in a country can support the rise in brand value of tourism destinations. The tourism demand for the respective destination may therefore increase. Furthermore, brand value can be expressed as an indication of the capability of tourism firms to gain market power, that is, their ability to apply high prices. On the other hand, international tourism flows may also affect the formal and informal institutional structure of the host country. In this study, using fairly comprehensive indicators related to the institutional structure and panel data methods, the relationship between institutional quality and international tourism revenues was examined for France, Italy, Spain, Greece and Turkey. It is known that these countries compete in maritime tourism and have strong cultural tourism potential due to many reasons, especially their historical background. In the study, three different measures of institutional quality were used. These are institutions, public institutions and private institutions indexes published by World Economic Forum. For tourism revenues, two different indicators are taken into consideration: total international tourism revenues and the value of this variable per tourist. The research period was limited to 2006-2017, the period in which data on institutional quality is available. In the analysis, firstly the cross-sectional dependence of the data was examined by Breusch and Pagan (1980) LM and Pesaran (2004) CD tests and in accordance with the findings of these tests second generation panel unit root tests were applied. Considering the heterogeneity of parameters of the model, the causality relationship between institutional quality and tourist revenue variables was examined by Dumitrescu and Hurlin (2012) heterogeneous panel causality test. Findings of the causality analysis indicate that there is a unidirectional causal relationship running from all three variables of institutional quality to international tourism revenue and international tourism revenue per tourist. Additionally, individual effects of countries in the predicted panel VAR model were found to be different. As a conclusion, the findings of the study show that besides the supply and demand factors countries need to improve their institutional quality in order to increase tourism revenues.

Keywords: Institutional Quality, International Tourism Revenues, Heterogeneous Panel, Causality Analysis, Five Mediterranean Countries.
Kurumsal Kalite ve Uluslararası Turizm Gelirleri İlişkisi...


1. Giriş


1. Giriş

Bu çalışmada panel veri yöntemleri kullanılarak beş Akdeniz ülkesinde kurumsal kalite ve turizm gelirleri ilişkisi nedensellik analizi kapsamında araştırılmıştır. Araştırmayı kapsayan ülkeler Fransa, İtalya, İspanya, Yunanistan ve Türkiye’ nin 2006-2017 yıllarına ait verilerle dayanmaktadır. Çalışmada ele alınan ülkelerin deniz turizmine göre dünya ülkeleri arasında üst sıralarda ve birbirleriyile rekabet halinde olmanın yanı sıra kültür turizmi bakımından da hayli zengin potansiyellerinin olduğu bilinmektedir. Ayrıca çalışmada kurumsal kaliteyi sadece belirli yönleri ile değil çok sayıda farklı yönleri ile ele alan göstergeler kullanılmıştır.

2. Veri Seti

Yukarıda ifade edildiği gibi bu çalışmada kurumsal kalite ve uluslararası turizm gelirleri arasındaki ilişkinin incelenmesinde Fransa, İtalya, İspanya, Yunanistan ve Türkiye’nin 2006-2017 yıllarına ait veri seti kullanılmıştır. Çalışmada kullanılan kurumsal kalite göstergelerinin 2006 öncesi yıllarda ait verileri bulunmadığından dolayı araştırma dönemi belirlenen yıllara sınırlandırılmıştır. Kurumsal kaliteye ilişkin yapılan çalışmalarda ağırlıklı olarak önemli mülkiyet hakları, yolsuzluklar veya hukukun üstünlüğü gibi kurumsal kalitenin sadece belirli bir boyutu ölçen göstergelerin dikkate alınıldığı görülür. Bu çalışmada ise kurumsal kalite göstergesi olarak Dünya Ekonomik Forumu’nun kurumsal kalite endeksi olarak Dünya Ekonomik Forumu’nun 21 kurumsal kalite endeksi aşağıda faktörlere ilişkindir:

1. Mülkiyet haklarının korunması
2. Fikri mülkiyetin korunması
3. Kamu kaynaklarının kanunuz şeklinde tahsisı
4. Politikacılara yönelik kamuoyu güveni
5. Kuralsız ödemeler ve rüşvetin yaygınlığı
6. Yargı bağımsızlığı
7. Kamu görevlilerinin karar alma süreçlerinde bazı kesimlere iltimas geçmeleri
8. Kamu harcamalarında etkinlik
9. Kamu düzenlemelerinin ağırlığı
10. Uyum hazırlıklarının çözümünde yasal sistemin etkinliği
11. Hükûmet eylem ve düzenlemelerine karşı yasal sistemin etkinliği
12. Kamu politikaları oluşturum süreçlerinde şeffaflık
13. Terörozmin iş/ticaret üzerinde neden olduğu yük
14. Suç ve şiddetin iş/ticaret üzerinde neden olduğu yük
15. Organize suçların iş/ticaret üzerinde neden olduğu yük
16. Polis tarafından sağlanan güvenlik hizmetlerinin güvenilirliği
17. Firmaların etik davranış derecesi
18. Denetleme ve raporlama standartlarında sağlanmış
19. Şirket kurumlarının etkinliği
20. Küçük hissedarların çıkarlarının korunması
21. Yatırımcıların koruma derecesi


Bu çalışmada turizm gelirleri göstergesi olarak ise ülkelere ABD doları cinsinden toplam turizm gelirleri ve ayrıca turist başına düşen turizm gelirleri değişkenleri kullanılmıştır. Turizm gelirlerine ilişkin veriler Dünya Bankası Dünya Kalkınma Göstergeleri veri tabanından alınmıştır. Çalışmada kullanılan değişkenlere ait grafikler Panel 1’de verilmiştir.
Tablo 1. Çalışmada Kullanılan Değişkenler

<table>
<thead>
<tr>
<th>Kısa İsim</th>
<th>Değişkenler</th>
<th>Değer</th>
<th>Kaynak</th>
</tr>
</thead>
<tbody>
<tr>
<td>LINS</td>
<td>Kurumlar Endeksi</td>
<td>1-7</td>
<td>Dünya Ekonomik Formu</td>
</tr>
<tr>
<td>LPUB</td>
<td>Kamu Kurumları Endeksi</td>
<td>1-7</td>
<td>Dünya Ekonomik Formu</td>
</tr>
<tr>
<td>LPRV</td>
<td>Özel Kurumlar Endeksi</td>
<td>1-7</td>
<td>Dünya Ekonomik Formu</td>
</tr>
<tr>
<td>LRPT</td>
<td>Turist Başına Turizm Gelirleri</td>
<td>ABD Doları</td>
<td>Dünya Bankası WDI</td>
</tr>
<tr>
<td>LR</td>
<td>Turizm Gelirleri</td>
<td>ABD Doları</td>
<td>Dünya Bankası WDI</td>
</tr>
</tbody>
</table>

Analizlerde ise değişkenlerin logaritmik değerleri kullanılmış olup bunlara ilişkin bilgiler Tablo 1’de özetlenmiştir.
3. Ekonometrik Yöntem


3.1 Yatay Kesit Bağımlılığının İncelenmesi


\[ LM = T \sum_{i=1}^{N} \sum_{j=i+1}^{N} \hat{\rho}_{ij} \]  

Burada \( \hat{\rho}_{ij} \) paneldeki ve j’inci birimlerin hata terimleri arasındaki korelasyon katsayısını göstermektedir. \( T \) ve \( N \) ise sırasıyla panelin zaman boyunca ve yatay keşit boyunca ifade edilmektedir. LM test istatistiği gibi ikili korelasyon katsayısının ortalaması ile ait denklemlerin paneldeki terimlerinde, gecikmeli yatay kesit ortalaması ve birinci farkına ilişkin faktör yapısında otokorelasyon 

\[ CD = \frac{2}{N(N-1)} \sum_{i=1}^{N} \sum_{j=i+1}^{N} \hat{\rho}_{ij} \]  

Her iki testte hipotezler \( H_0: \rho_{ij} = 0 \) ve \( H_1: \rho_{ij} \neq 0 \) şeklinde ifade edilebilir. Burada sıfır hipotezi panel birimleri arasında ilişki olmamasını, alternatif hipotez ise birimlerin korelasyonu olduğunu ifade etmektedir. Test istatistikleri, \( N’nin sabit ve \( T \rightarrow \infty \) değerleri için \( N(N-1)/2 \) serbestlik derecesinde \( \chi^2 \) dağılımı göstermektedir.

3.2 Birim Kök İncelenmesi


\[ \Delta y_{lt} = a_l + b_l y_{l,t-1} + c_l y_{l-1} + \sum_{i=0}^{p} d_{lj} \Delta y_{l,t-j} + \sum_{j=1}^{n} \delta_{lj} \Delta y_{l,t-j} + e_{lt} \] (3)

Burada \( y_l \) paneldeki tüm \( N \) gözlemlerin zamana göre ortalamasıdır. \( b_l \) katsayılarına ilişkin \( t \) istatistigiine göre paneldeki her bir yatay kesit için durağanklık incelemesi yapılmaktadır. CIPS istatistiği ise bu \( t \) istatistiklerin ortalaması şeklinde \( \frac{1}{N} \sum_{i=1}^{N} \sigma_i^2 \) hesaplanmaktadır. Testteki hipotezler ise \( H_0: b_l = 0 \) ve \( H_1: b_l < 0 \; i = 1, 2, ..., N \); \( b_l = 0 \; i = N_h + 1, N_h + 2, ..., N \) şeklindedir. Burada sıfır hipotezi paneldeki her bir yatay kesite ait verinin birim kırmızık içerdğini, alternatif hipotez ise verinin en az bir panel birimi için birim kırmızık içerdğini ifade etmektedir. Teste ilişkin kritik değerler ise Pesaran (2007) çalışmasına mevcuttur ( Ağazade, 2016: 135).

### 3.3 Katsayılardan Homojenliği İncelemesi


\[ S = \sum_{i=1}^{N} (\beta_i^* - \hat{\beta}_i)^2 \left( V_i^{-1} (\beta_i - \hat{\beta}_i) \right) \] (4)

Burada \( \beta_i^* \) panel birimleri için tahmin edilen En Küçük Karelemonyentini tahmincinin \( \beta_i \) eğilim parametresidir. \( V_i \) ise bu iki parametre nin varıyanları arasındaki farklıdır. Swamy (1970) S test istatistiği için paneldeki parti birimlerin heterojen olduğunu aşırdaki gibi ifade etmektedir (Tatoğlu, 2017: 247).

### 3.4 Dumitrescu ve Hurlin (2012) Panel Nedensellik Testi


\[ y_{lt} = \alpha_l + \sum_{k=1}^{K} y_{l,t-k}^{(k)} + \sum_{k=1}^{K} \beta_{l}^{(k)} x_{l,t-k} + \epsilon_{lt} \] (5)

Burada \( x \) ve \( y \) aralarında nedensellik ilişkisi incelenen durağan değişkenlerdir. Kbu değişkenlere ait geçicke uzunluklardır. Eşitlikte \( y_{l,t-k}^{(k)} \) otoregresif, \( \beta_{l}^{(k)} \) ise eşt parametrelerdir. Parametreler paneldeki her bir birim için debişilmektedir. Değişkenlere ait geçicke uzunlukları \( K \) ise paneldeki tüm yatay kesitler için aynıdır. Nedensellik testine ilişkin hipotezler \( H_0: \beta_l = 0 \forall i = 1, ..., N \) ve \( H_1: \beta_l = 0 \forall i = 1, ..., N \); \( \beta_l \neq 0 \forall i = N_h + 1, N_h + 2, ..., N \) şeklindedir. Nedensellik ilişkisinin incelemesi için Dumitrescu ve Hurlin (2012) tarafından önerilen istatistikler ise paneldeki yatay kesitler için hesaplanan Wald istatistiklerinin ortalamasına dayanmaktak olup aşağıdaki gibi ifade edilebilir:

\[ W_{N,T}^{Hnc} = \frac{1}{N} \sum_{i=1}^{N} W_{i,T} \] (6)

\[ Z_{N,T}^{Hnc} = \frac{N}{2K} \left( W_{N,T}^{Hnc} - K \right) \xrightarrow{d} N(0,1) \] (7)

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\[ Z_N^{Hnc} = \frac{\sqrt{N} [w_{N,T}^{Hnc} - N^{-1} \sum_{t=1}^{N} E(w_{t,T})]}{\sqrt{N^{-1} \sum_{t=1}^{N} \text{Var}(w_{t,T})}} \dfrac{d}{N \to \infty} \sim N(0,1) \] (8)

Bu da \( W_{t,T} \) birimi için Wald test istatistiğini göstermektedir. Dolayısıyla ilk istatistik yatay kesit birimlerine ait Wald istatistiklerinin ortalaması olan panele ait Wald istatistikidir. \( E(W_{t,T}) \) ve \( \text{Var}(W_{t,T}) \) ise \( W_{t,T} \) istatistikinin ortalaması ve varyansını göstermektedir. Panelin zaman boyutunun yata kesit boyutundan büyük olması durumında \( Z_{N,T}^{Hnc} \) istatistiği, panelin yata kesit boyutunun zaman boyutundan büyük olması durumunda ise \( Z_N^{nc} \) istatistiği dikkate alınmaktadır.

4. Bulgular


**Tablo 2. Yatay Kesit Bağımlılığına ilişkin Test Sonuçları**

<table>
<thead>
<tr>
<th>Test</th>
<th>LINS</th>
<th>LPUB</th>
<th>LPRV</th>
<th>LRPT</th>
<th>LR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breusch ve Pagan LM</td>
<td>42.5947*</td>
<td>40.2755*</td>
<td>46.1071*</td>
<td>29.9916*</td>
<td>54.2794*</td>
</tr>
<tr>
<td>Pesaran CD</td>
<td>4.6388*</td>
<td>3.7673*</td>
<td>6.3939*</td>
<td>3.4034*</td>
<td>6.9567*</td>
</tr>
<tr>
<td>Korelasyon Katsayısı</td>
<td>0.42</td>
<td>0.344</td>
<td>0.584</td>
<td>0.311</td>
<td>0.635</td>
</tr>
</tbody>
</table>

**Not:** * simgesi ilgili istatistikin %1 düzeyinde anlamlı olduğunu ifade etmektedir.


**Tablo 3. Birim Kök Testlerine ait Sonuçlar**

<table>
<thead>
<tr>
<th>Test</th>
<th>LINS</th>
<th>LPUB</th>
<th>LPRV</th>
<th>LR</th>
<th>LRPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yatay kesit ortalamalarından farklı alınmış seriler için LLC Sabitsiz ve Trendsiz</td>
<td>-0.390</td>
<td>-0.599</td>
<td>-0.374</td>
<td>-1.053</td>
<td>-2.976*</td>
</tr>
<tr>
<td>Sabitsiz</td>
<td>-5.898*</td>
<td>-5.507*</td>
<td>-5.922*</td>
<td>-3.188*</td>
<td>-0.154</td>
</tr>
<tr>
<td>Sabitsiz ve Trendli</td>
<td>-7.800*</td>
<td>-7.797*</td>
<td>-7.232*</td>
<td>-2.420*</td>
<td>-6.314*</td>
</tr>
<tr>
<td>Yatay kesit ortalamalarından farklı alınmış seriler için IPS Sabitsiz ve Trendsiz</td>
<td>-2.478*</td>
<td>-2.575*</td>
<td>-2.712*</td>
<td>1.695**</td>
<td>0.897</td>
</tr>
<tr>
<td>Sabitsiz</td>
<td>-2.619*</td>
<td>-2.743*</td>
<td>-2.408*</td>
<td>0.159</td>
<td>-2.355*</td>
</tr>
<tr>
<td>Sabitsiz ve Trendli</td>
<td>-1.661***</td>
<td>1.361***</td>
<td>-2.057*</td>
<td>1.714**</td>
<td>-1.391</td>
</tr>
<tr>
<td>Pesaran (2007) CIPS Sabitsiz ve Trendsiz</td>
<td>-1.557</td>
<td>-1.405</td>
<td>2.263**</td>
<td>2.726**</td>
<td>2.393***</td>
</tr>
<tr>
<td>Sabitsiz</td>
<td>-1.361</td>
<td>-1.200</td>
<td>-2.185</td>
<td>-1.706</td>
<td>2.952***</td>
</tr>
<tr>
<td>Sabitsiz ve Trendli</td>
<td>-0.893</td>
<td>-0.612</td>
<td>-0.400</td>
<td>0.159</td>
<td>-2.277</td>
</tr>
</tbody>
</table>

**Not:** *, ** ve *** simgeleri ilgili istatistikin %1, %5 ve %10 düzeyinde anlamlı olduğunu ifade etmektedir.

Tablo 3’de ifade edilen bulgulara göre LINS ve LPUP değişkenleri için hesaplanan LLC testi sabitli model ile sabitli ve trendli model, IPS her iki model ve Pesaran (2007) sabitsiz ve trendsiz model istatistikleri anlamlıdır. Belirtilen istatistikler Pesaran (2007) testinde %10 düzeyinde diğer testlerde ise %1 düzeyinde LINS ve LPUB değişkenlerinin durağan olduğunu desteklemektedir. LPRV


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<td>LINS→LRPT</td>
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<td>LRPT→LINS</td>
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<td>LRPT→LPUB</td>
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<td>LRPT→LPRV</td>
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</tbody>
</table>

Not: *, **, *** simgesi ilgili istatistikin sırasıyla %1, %5 ve %10 düzeyinde anlamlı olduğunu ifade etmektedir.


Daha önce ifade edildiği gibi çalışmada yapılan analizin dayanacağı panel verinin zaman boyutundan büyük olduğundan dolayı nedensellik testine ilişkin iliski kararlarında \( Z_{N,T}^{unc} \) istatistiği dikkate alınmıştır. LINS, LPUB ve LPRV kurumsal göstergelerinden LRPT değişkenine doğru nedensellik ilişkisinin incelediği modellerde ait ve Tablo 4’ün ilk bölümünde ifade edilen \( Z_{N,T}^{unc} \) istatistikleri %1 düzeyinde anlamlı bulunmuştur. LRPT için tahmin edilen PVAR modellerinde istatistiksel olarak anlamlı olduğu görülen gecikmeli LINS ve LPUB değişkenlerine ait katsaylarının İspanya ve Türkiye’ye ait ve pozitif oldukları belirlenmiştir. LRPT için tahmin edilen modelde ise istatistiksel olarak anlamlı olduğu görülen gecikmeli LPRV değişkeni katsaylarının Fransa için negatif ve Türkiye için pozitif olduğu belirlenmiştir.

LINS, LPUB ve LPRV kurumsal göstergelerinden LR değişkenine doğru nedensellik ilişkisinin incelediği modellerde ait ve tablonun ikinci kısmında yer alan \( Z_{N,T}^{unc} \) istatistikleri ise sıfır hipotezini reddedilmiştir.
surasıyla %1, %10 ve %5 anlamlılık düzeyinde reddetmiştir. PVAR modellerinde ülkelerin bireysel etkilerine bakıldığında ise LR için tahmin edilen modellerde anlamlı olduğu görülen gecikmeli LINS ve LPUB değişkeni katsayılarının Yunanistan için negatif, LPRV değişkeni katsayılarının ise Türkiye için negatif ve Yunanistan için farklılıeti (pozitif ve negatif) olduğu belirlenmiştir.


5. Sonuç ve Değerlendirme


THE QUALITY OF HUMAN CAPITAL IN UKRAINE: CORPORATE TRAINING ASPECT

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Abstract

Measuring of the Ukrainian human capital quality is tangled with such significant factors as poor law base, low government spending on education, migration processes, skills gaps etc. The problem of providing the necessary quality of workforce (as a significant part of human capital) dislocates onto the level of the companies and can be solved by means of corporate training. The existence of processes, systems, procedures for corporate training itself does not guarantee the benefits for all stakeholders. The study is aimed at defining the pillars of corporate training quality as a part of human capital quality in Ukraine. The study employed essential principals of quality management to define the parameters, indicators and the scale for the quality of corporate training. Based on the results, five parameters and thirteen indicators for corporate training quality have been defined and measured. The quality scale which helps to define the level of corporate training quality (from very low to very high) was developed. The integrated indicators for advertising companies in Ukraine were calculated. The obtained indicator is universal, low-cost and easy in interpretation; it allows to develop the priorities for corporate training in the organization.

Keywords: Human Resources, Corporate Training, Quality Management, Competencies, Skills Gaps.

1. Introduction

In today's knowledge economy, the human factor is becoming a critical factor for the world development. Humanization, processes of formation, development and growth of human capital remain the key point of growth at all levels of the economy. In turn, the inevitable and permanent changes in the business environment, caused by the transformation of production methods, techniques and technologies, lead to the need for appropriate qualitative transformation of human capital and the development of the labor potential. Therefore, it can be argued that the successful functioning of the economy at all levels depends on the state of health, knowledge, skills, abilities and motivations of human capital, but the growth of the economy at all levels depends on the quality and speed of the human capital development.

According to the latest research (1) on Human Capital Index (HCI), Ukraine has the 50th position out of 157 in the corresponding rating. The HCI value for Ukraine is 0.65 (Singapore which is the leader in the rating, has HCI value of 0.88). Singapore / Ukraine components of HCI are the following: probability survival to age 5 – 100/0.99; expected years of school – 13.9/13.0; harmonized learning outcome – 581/490; learning-adjusted years of school – 12.9/10.2; adult survival rate – 0.95/0.81.

Measuring of HCI provides countries with the strategic vision of human resources quality and long-term perspectives for their development. However, the Ukrainian situation on human capital is tangled with other significant factors such as poor law base, low government spending on education, migration processes, skills gaps etc.

HCI is calculated for the child born in 2018; and according to the current tendencies, investments in human capital in Ukraine are of very high risk due to the workforce migration. So, “higher than average” indicators of HCI do not consider the risk of realizing the labor potential abroad. Only in the
year 2016 significant number of Ukrainians got the permission for living abroad (2): in Poland (512,552 people), Czech Republic (24,223 people), Slovakia (3,016 people), Denmark (2,727 people), Hungary (2,375 people) and many other countries.

According to the recent survey (3), only 28.6% of Ukrainians have jobs that correspond to their educational specialization. That indicates the deep skills gaps: the educational system in Ukraine is not flexible enough to react on accelerated changes in business environment and in the society at a whole.

Thus, the problem of providing the necessary quality of workforce (as a significant part of human capital) dislocates onto the level of the companies and can be solved by means of corporate training.

2. Background and Purpose of the Research

On the international level, aspects of corporate training are actualized within the concept of humanization throughout the human life; its importance is stated in the number of documents of global and regional importance: the ILO Decent Work Concept, the Millennium Development Goals, the Europe 2020 Strategy, the Lifelong Learning Concept, the Sustainable Development Goals and others.

M. Magura (2002) explores the basic prerequisites for increasing the role of corporate training for enhancing the competitiveness and organizational development. These prerequisites include the achievement of strategic goals of the enterprise, increasing the value of human resources, conducting constant organizational changes in response to changes in the business environment. Complementing the research of Magura, it is important to note that all parties of labor relationship gain from corporate training. Thus, the extension of human capital and releasing of human potential are providing.

In particular, the extension of individual human capital by means of corporate training can be achieved through increasing of professional and competence levels, expanding career prospects (both internally and externally), potential increase in remuneration, higher job satisfaction, growth self-estimation. The development of human capital at the microeconomic level is in line with the benefits that an enterprise receives from implementing corporate training procedures: they are: increase in profitability, rapid adaptation changes and quick implementation of new directions of business activity, maintaining and increasing competitiveness by improving labor productivity, reducing injuries and other similar indicators, increasing the loyalty of human resources etc. Human capital extension at higher economic levels (macro- and megaeconomic) also occurs through corporate training activities. They are reflected in the increasing of the employment rate, national income, GDP and the human development index, improving of the living standards, weakening of social tensions in society etc.

Modern socio-economic realities are the result of objectively existing circumstances which constrain the evolution of the corporate training on Ukrainian enterprises. These circumstances include the following:

1) lack of understanding of the importance of corporate training among top-managers;
2) unwillingness to make long-term investments;
3) low quality level of the supply of educational services for staff;
4) lack of standards in the field of corporate training;
5) unsystematic character of corporate training, etc.

Over the last 6 years the National gathered data on the forms and methods of corporate training are absent. However there are solid observations, reports and researches have been conducting by international organizations. For example, the noteworthy World Bank's research “The Skills for a Modern Ukraine” (2017) outlines the five key messages:

1. Workers need a mix of skills: they include competencies, attitudes, beliefs, and behaviors that are modifiable across the life cycle and can be learned and improved through specific programs and policies.

2. Postsecondary education and training lack relevance for today’s labor market: Ukrainians have high levels of basic cognitive skills, but the higher education and training system does not produce enough skills relevant for today’s labor market. Ukrainian firms in key sectors report that the lack of adequate skills is one of the most important constraints to hiring.

3. Institutional factors are hindering the efficient allocation of labor and skills development: the formal education and training system is not providing students with the skills employers need, skills training outside the formal education system has very low take-up rates, employers see payroll taxes
and social security contributions as major constraints to their operation and growth, little reliable information is available on current and emerging skills, despite recent changes, the labor code and other labor market institutions do not facilitate an adaptable labor market or foster conditions.

4. Skills gaps are limiting productivity: skills gaps significantly constrain firms’ performance in Ukraine: 40 percent of firms in four key sectors (agriculture, food processing, information technology, and renewable energy) report a significant gap between the type of skills their employees have and those they need to achieve their business objectives. Although skills gaps are not the most pressing constraint that firm faces, they limit the ability to hire, perform, and grow.

5. A range of policies could enhance the Development and Use of skills. Policy options can be organized into three pillars: building foundational skills for new labor market entrants; enhancing the development of advanced skills for current and future workers; improving the institutional environment to facilitate the use of skills.

To our point, it is interesting to observe that the priority competencies for corporate training in Ukraine differs from the EU countries (see Table 1). These results of ranking of importance of competences testify to the short-term perspective of human resource management in Ukraine.

Table 1. Priority Competencies for Corporate Training in EU Countries and Ukraine

<table>
<thead>
<tr>
<th>Ukraine</th>
<th>EU countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special technical skills</td>
<td>Teamwork</td>
</tr>
<tr>
<td>Professional behavior</td>
<td>Technical, practical and specific skills</td>
</tr>
<tr>
<td>Problem solving</td>
<td>Work with customers</td>
</tr>
<tr>
<td>Ability to work independently</td>
<td>Problem solving</td>
</tr>
<tr>
<td>Teamwork</td>
<td>Management</td>
</tr>
<tr>
<td>Leadership</td>
<td>General level IT</td>
</tr>
<tr>
<td>Communications</td>
<td>Oral and written communication</td>
</tr>
<tr>
<td>Creative and critical thinking</td>
<td>Account and Literacy</td>
</tr>
<tr>
<td>Time management</td>
<td>Office Management</td>
</tr>
<tr>
<td>Knowledge of a foreign language</td>
<td>IT professional; foreign languages</td>
</tr>
</tbody>
</table>

Source: Del Carpio.

According to the abovediscussed issues, the question of assessing the benefit-cost ratio of corporate training has been arising. Minimizing the potential risks and maximizing the benefits depends on the relevance of the expected results to the actual ones. The category of “quality” is usually used to refer to this ratio. The point is that the existence of processes, systems, procedures for corporate training itself does not guarantee the benefits named above. Instead, in order to maximize all the benefits of conducting the corporate training within the entire management system, it is necessary to carefully examine the characteristics for the quality of corporate training. Thus, the purpose of this research is to define the core parameters and indicators for the quality of corporate training.

3. Results

3.1 The Basic Parameters that Determine the Quality of Corporate Training in Ukraine

Based on works of Petrova (2014), Borodienko (2016) and Pylypenko (2017) we came up with the three blocks of corporate training goals and objectives which were grouped according to the business activity level.

Block 1. The goal is to ensure the current functioning of the enterprise. The corresponding objectives are:
- adaptation of staff;
- regular certification of employees in the organization;
- promotion of internal competition between employees (avoiding the destructive processes and aggravation of conflicts);
- ensuring the stability of the personnel composition, as well as its adequate updating;
- ensuring the smooth functioning of all business processes in the organization.

Block 2. The goal is to ensure the functioning of the enterprise in the future, which involves the following objectives for corporate training:
- formation of positive attitude of the staff to the organization;
- creation of conditions for career promotion, career planning;
- realization of labor potential of each employee.
- developing strategies for individual, team and organizational training;
- extension the intellectual capital of the organization;

Block 3. The goal is to create a learning organization that can be achieved through the following objectives:
- formation of corporate training system where appropriate documented procedures and standards are included, different forms and methods of training are combined;
- use of progressive forms of corporate training (kaizen blitz, coaching, group training, etc.);
- introduction of knowledge management system that includes processing, dissemination and storage of information and ensuring the access for the relevant categories of employees;
- increasing the employees’ EQ.

Based on the essential principles of quality management, we consider the following parameters of corporate training quality: sensitivity (of corporate training results are reflected in the growth of socio-economic indicators of enterprise activity – \( x_1 \)); reliability (the corporate training activities should maximize the learning outcomes and skills development – \( x_2 \)); interconnection (corporate training outcomes should be reflected in the current or future career of the employees – \( x_3 \)); durability (results of corporate training should be fixed as long as possible in the labor behavior of employees – \( x_4 \)); safety (the corporate training activities, as well as their motivational support should take place in adequate physical and socio-psychological conditions - while maintaining optimal physical and mental load, favorable social and psychological climate and team spirit – \( x_5 \)).

3.2 The Integrated Indicator for Measuring the Corporate Training Quality

As part of the study of measuring the quality of corporate training, the corresponding indicators were grouped according to parameters. The parameter of sensitivity includes the indicators of the ROI dynamics \( (x_{11}) \), the staff turnover dynamics \( (x_{12}) \), the dynamics of the number of innovative proposals \( (x_{13}) \); the reliability parameter contains the indicator of educational material assimilation \( (x_{21}) \); the parameter of interconnection consists of the following indicators: the dynamics of productivity \( (x_{31}) \), career promotion \( (x_{32}) \), dissemination of learning outcomes \( (x_{33}) \); the parameter of durability is represented by the indicators of the period for the growing of socio-economic indicators \( (x_{41}) \) and the relative speed of competence aging \( (x_{42}) \); safety parameter is represented by the employees health \( (x_{11}) \), satisfaction with learning outcomes \( (x_{51}) \) and personnel commitment \( (x_{52}) \).

Based on the advantages of classical techniques that can be applied to measuring the quality of corporate training (reflecting the results of training in profit growth, individual motivation, clarity of goals, taking into account social and economic parameters of quality, etc.), the quality of corporate training is proposed to be measured with an integrated indicator (1):

\[
Q_{TD} = \sum_{i=1}^{n} \sum_{j=1}^{m} \alpha_i \times \beta_j \times x_{ij}
\]

\( Q_{TD} \) – the integrated indicator of corporate training quality;
\( i \) – parameter of corporate training quality;
\( n \) – number of parameters;
\( j \) – the quality indicator within the \( i \)-parameter;
\( m \) – number of indicators within each parameter;
\( \alpha, \beta \) – weights of the quality parameters and quality indicators;
\( x_{ij} \) – value of the \( j \)-indicator within \( i \)-parameter.
3.3 The Quality of Corporate Training on the Example of the Advertising Companies

The modern system of corporate training in advertising companies does not keep up with the volume and constantly growing demands of the advertising market, so only the employers themselves can solve the problem of personnel training. Therefore, in accordance with the general goals of the advertising companies, we have formed the goals of corporate training for these enterprises with the division of employees into categories (administrative staff not included). For customer service managers: increasing the number of loyal customers, improving customer communication, streamlining customer service, improving objections, and reducing complaints and dissatisfied customers. For production staff: increasing in labor productivity, increase in motivation of work, rational use of working time, improvement of quality of promotional products. For the staff of the design department: expanding the range of services, implementing the achievements of neuromarketing in advertising projects, increasing the level of customer satisfaction. For Internet marketers: Expanding the range of Internet marketing and digital marketing services, in particular, offering online advertising campaigns, increasing the share of Internet marketing and digital marketing services in total enterprise revenue. For PR and event staff: increasing the number of orders, increasing the number of contacts in the media, mastering the specifics of working with Internet media.

The weights of the parameters and indicators for the corporate training quality had been calculated by means of expert assessment method. The biggest weight among the parameters of quality have the sensitivity and interconnection (0.31 and 0.29 respectively), the most valuable indicators are the dynamics of ROI, the dynamics of productivity, the period of revenue growth due to the use of new competencies and employees motivation. A quality scale of corporate training has been developed for advertising companies taking into account specifics of this industry; it also makes possible to compare different indicators and to determine the quality level of training and staff development - from very low to very high (see Table 2).

Table 2. Initial Data for Calculating the Integrated Indicator of the Corporate Training Quality for Advertising Companies in Ukraine: Scale and Shares of Parameters and Indicators

<table>
<thead>
<tr>
<th>Share of Parameters</th>
<th>Share of Indicators</th>
<th>Quality Scale/ Quality Level/ Value of Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Very low</td>
</tr>
<tr>
<td>x1 (0.31)</td>
<td>x11 (0.5)</td>
<td>&lt;0</td>
</tr>
<tr>
<td></td>
<td>x12 (0.29)</td>
<td>&gt;5</td>
</tr>
<tr>
<td></td>
<td>x13 (0.21)</td>
<td>&lt;10</td>
</tr>
<tr>
<td>x2 (0.16)</td>
<td>x21 (1)</td>
<td>[0-20]</td>
</tr>
<tr>
<td>x3 (0.29)</td>
<td>x31 (0.38)</td>
<td>&lt;10</td>
</tr>
<tr>
<td></td>
<td>x32 (0.13)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>x33 (0.2)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>x34 (0.29)</td>
<td>&lt;20</td>
</tr>
<tr>
<td>x4 (0.13)</td>
<td>x41 (0.67)</td>
<td>&gt;1</td>
</tr>
<tr>
<td></td>
<td>x42 (0.33)</td>
<td>&lt;0,2</td>
</tr>
<tr>
<td>x5 (0.11)</td>
<td>x51 (0.19)</td>
<td>&gt;10</td>
</tr>
<tr>
<td></td>
<td>x52 (0.33)</td>
<td>[0-2]</td>
</tr>
<tr>
<td></td>
<td>x53 (0.48)</td>
<td>[0-2]</td>
</tr>
</tbody>
</table>

Based on the obtained indicators and relative values, the integrated indicator of the corporate training quality has been calculated for 6 advertising companies. The map of corporate training quality for the analyzed companies is presented on Figure 1 (Fig.1).
The Quality of Human Capital...

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Quality Scale</th>
<th>Quality Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boomerang</td>
<td>2</td>
<td>$x_{11}$ $x_{12}$ $x_{13}$ $x_{21}$ $x_{22}$ $x_{23}$ $x_{31}$ $x_{32}$ $x_{33}$ $x_{41}$ $x_{42}$ $x_{51}$ $x_{52}$ $x_{53}$</td>
</tr>
<tr>
<td>Evolution</td>
<td>2</td>
<td>$x_{11}$ $x_{12}$ $x_{13}$ $x_{21}$ $x_{22}$ $x_{23}$ $x_{31}$ $x_{32}$ $x_{33}$ $x_{41}$ $x_{42}$ $x_{51}$ $x_{52}$ $x_{53}$</td>
</tr>
<tr>
<td>Raindrops</td>
<td>2</td>
<td>$x_{11}$ $x_{12}$ $x_{13}$ $x_{21}$ $x_{22}$ $x_{23}$ $x_{31}$ $x_{32}$ $x_{33}$ $x_{41}$ $x_{42}$ $x_{51}$ $x_{52}$ $x_{53}$</td>
</tr>
<tr>
<td>Grades</td>
<td>2</td>
<td>$x_{11}$ $x_{12}$ $x_{13}$ $x_{21}$ $x_{22}$ $x_{23}$ $x_{31}$ $x_{32}$ $x_{33}$ $x_{41}$ $x_{42}$ $x_{51}$ $x_{52}$ $x_{53}$</td>
</tr>
<tr>
<td>Nova Reklama</td>
<td>2</td>
<td>$x_{11}$ $x_{12}$ $x_{13}$ $x_{21}$ $x_{22}$ $x_{23}$ $x_{31}$ $x_{32}$ $x_{33}$ $x_{41}$ $x_{42}$ $x_{51}$ $x_{52}$ $x_{53}$</td>
</tr>
<tr>
<td>Palmira Group</td>
<td>2</td>
<td>$x_{11}$ $x_{12}$ $x_{13}$ $x_{21}$ $x_{22}$ $x_{23}$ $x_{31}$ $x_{32}$ $x_{33}$ $x_{41}$ $x_{42}$ $x_{51}$ $x_{52}$ $x_{53}$</td>
</tr>
</tbody>
</table>

Figure 1. The Map of Quality of the Corporate Training for the Analyzed Advertising Companies

According to the formula 1 the level of corporate training quality was defined for each of the analyzed advertising companies: the quality level of Boomerang LLC can be defined as low (-0.08), Evolution LLC, Raindrops LLC and Palmira Group LLC as high (1.25; 1.01 and 0.8 respectively), Grades LLC as very high (1.82), Nova Reklama LLC as zero quality level (0.27).

4. Conclusions and Recommendations

The proposed integrated indicator of the corporate training quality has the following advantages: 1) it is universal what helps to bring different components professional training and development to
the quality assessment; 2) is low-cost both in terms of the need to raise funds and in terms of the use of
time and human resources required to spend it; 3) it provides ease and unambiguous interpretation for
the findings of the evaluation; 4) it provides an opportunity to carry out quality assessment at the level
of a separate training and development program, as well as a general quality assessment of the whole
system of corporate training; 5) it is easy to interpret, it is visible and understandable. Thus, measuring
the quality of corporate training complements the assessment on human capital quality and appears to
be the useful tool for providing the effective lifelong learning at different economic levels.

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Global Sustainable Development Goals - 2030. [online]. — Available at: http://www.un.org.ua/images/documents/3615/%D1%86%D1%96%D0%BB%D1%96_web(2).pdf.
License: Creative Commons Attribution CC BY 3.0 IGO
THE IMPACT OF FISCAL DECENTRALIZATION ON ECONOMIC GROWTH IN THE BALTIC COUNTRIES

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Abstract

Fiscal decentralization has always been an interesting topic because researchers about fiscal decentralization consider not only the economic future, but also other perspectives such as geographic, politic, and other subjects. In the scientific world, the effect of fiscal decentralization on economic growth of the country has been analyzed by many scientists. The paper analyses the fiscal decentralization effects on economic growth in Baltic countries for the period 2007–2017. The Baltic countries (Estonia, Latvia and Lithuania) are often considered as one region with similar economic profiles and common political and social values. They are geographically and historically closely related, particularly during the Soviet era. The empirical analysis was based on the multiple regression method. The article object is fiscal decentralization effect on economic growth in the Baltic countries. The aim of this article is to investigate the theoretical aspect of the effect of fiscal decentralization on economic growth, calculate the index of fiscal decentralization and evaluate the effect of fiscal decentralization on economic growth in the Baltic countries.

Lithuania has the lowest fiscal decentralization index (0.28) of the Baltic countries. The research has proved that the effect of fiscal decentralization on economic growth of Baltic countries is statistically significant and positive. The originality of this article – introduced the theoretical model for estimating of fiscal decentralization effect on economic growth and evaluated the fiscal decentralization effect on economic growth in Baltic countries.

Keywords: Effect of the Fiscal Decentralization, Economic Growth, Baltic Countries, Index of Fiscal Decentralization.
FINANCIAL DEVELOPMENT, STABILITY AND ITS EFFECT ON ECONOMIC GROWTH: AN EMPIRICAL ANALYSIS IN THE CONTEXT OF SOUTH ASIA

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Management Development Institute Murshidabad, India, Email: souvik.2005@gmail.com

Abstract

Hitherto most of the analysis of the financial crisis of 2008 are done with respect to the developed countries (like Organization of Economic Development (OECD) countries).

In 2007, the financial crisis had first hit the United States. Subsequently this crisis subsequently engulfed financial institutions predominantly in the developed OECD countries. Gradually the crisis turned into a global economic recession when it affected even emerging market economies, predominantly through the trade channel, and in some cases through falling inward remittances. In many emerging market economies, the economic consequences of this event were quite severe, and the scale of impact is comparable to the effects felt by developed countries. In the aftermath of the 2008 global financial crisis, the implications of financial liberalisation for stability and economic growth have come under increased scrutiny. One school of economic thought posits a positive relationship between financial liberalisation and economic growth and development. However, there is a view that financial liberalisation is intrinsically associated with financial instability which may be harmful to economic growth and development. This study assesses linkages between financial instability, financial liberalisation, financial development and economic growth in 7 South Asian countries for the period 2000–2016. The empirical results suggest that financial development and financial liberalisation have positive effects on financial instability. The findings also reveal that economic growth reduces financial instability and the magnitude of reduction is higher in the pre-liberalisation period compared to post-liberalisation period.

Keywords: Financial Development, Economic Growth, Financial Liberalisation, Stability.
DEMOGRAPHIC CHALLENGES TO NATIONAL PENSION SYSTEMS OF UKRAINE AND POLAND

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Podilsky State Agrarian Technical University, Department of Finance, Banking and Insurance, Ukraine

Abstract

Demographic processes in Europe in the second half of the 20th century and the beginning of the 21st century are characterized by significant changes in the ratio between age groups of the population. There is an increase in the proportion of older people and the change in the ratio between generations. The above problems are also faced in Poland and Ukraine and their lead to necessary the reforms of the national pension systems.

The aim of paper was to estimate the demographic processes in Ukraine and Poland and influence the functioning of national pension systems. Also the level of salaries and pensions as well as selected indicators of Poland and Ukraine were compared with data for Germany. The applicable literatures, legal acts, the Pension Funds, Central Statistical Offices, World Bank and Eurostat were the sources of used data and information. The descriptive and comparative statistical methods were used to analyse the analysis of the demographic aging process involves analysis of main demographic indicators within 2005-2017.

The demographic load factor (for Ukraine is 41.2% and for Poland is 39.6%) for both countries shows that the number of able-bodied population is more than twice the size of the population of the working age. In the same time the potential replacement rate in Poland is 0.8 points higher than in Ukraine and in 2017 it is 20.6%. While the ratio of the retirement burden, in Ukraine exceeds by 2.7 points the same indicator in Poland and equates to 21.8% respectively. The response of society to the rapid increase in the number of retirement age people has been accelerated development and further transformation of pension systems. The national pension systems of Poland and Ukraine in recent years and still have also undergone significant changes.

Keywords: National Pension System, Pension Reform, Demographic Sphere, Population Aging, Retirement Age, Pension.

1. Introduction

The demographic situation in most European countries for a long period has a tendency to increase the number of older people and reduce fertility. There are processes associated with changes in the ratio between age groups in the direction of increasing the proportion of elder people. Similar processes in the demographic sphere are also taking place in Poland and Ukraine.

The main feature of the current demographic situation is the aging of the population, which is considered to be the result of a decrease in childbearing activity of the population and the achievement of humanity in the success of life expectancy. It is a logical and irreversible process and a consequence of civilizational progress. It is aging of the population and its consequences to a large extent determine the socio-demographic portrait of contemporary and future society. According to experts in the field of demography, if the twentieth century can be called "century of growth", then the twenty first can be characterized as "century aging" (World Population Prospects, 2009; World Population to 2300, 2004; Lutz. W.; Sanderson. W.; Scherbov. S., 2008). Demographic processes, together with economic, socio-economic, require constant reform and improvement of the national pension systems of Poland and Ukraine in order to address the issue of decent living for people of retirement age. Taking into account today's realities in the demographic sphere, it can be noted that the formation of optimal pension models is a rather difficult task and requires a long and hard work from the side of society as a whole.
The aim of research was to estimate the demographic processes in Ukraine and Poland, analyse their features, and influence the functioning of national pension systems, as well as identify the priorities at the present stage of their reform. At the same time, to highlight the problems of the pension systems of the analysed countries the level of salaries and pensions as well as selected indicators of Poland and Ukraine were compared with data for Germany.

The data and information were taken from the official sources: the applicable literatures, legal acts, the Pension Funds, Central Statistical Offices, World Bank and Eurostat. The descriptive and comparative statistical methods were used in the research paper in order to analyse the problem from the economic point of view. Analysis of the demographic aging process involves analysis of basic demographic indicators as: the demographic load factor, the potential replacement rate and the retirement load factor within 2005-2017.

2. Literature Review

The demographic processes that have taken place in recent decades have aroused interest in the research of many scientists as well as international financial institutions and institutions. Particularly important is to clarify the issue of the impact of demographic factors on changes in the financing of national pension systems in European countries, including Poland and Ukraine. The issue of population aging has been raised during many international forums that have adopted action plans on demographic issues. (Madrid International Plan of Action on the Challenges of Aging 2002) Consideration and resolution of the problems of demography in modern conditions have always been and are among the priorities for the International Labour Organization, as well as for the specialized financial institutions of the European Union (Social Security Programs Through the World; EU's Mutual Information System for Social Protection).

The demographic situation in Poland and in Ukraine, as well as in other Eastern European countries, has also been analysed and taken into account in the development of general measures to address these problems. In addition, the World Bank conducted significant work on analyzing demographic processes in those countries that focused on the impact of demographic factors on the state of national pension systems and the need for their reform. (World Bank Office in Ukraine) The research institutes of both countries have devoted many scientific works to the analyses of demographic processes in them and their influence on the development of national pension systems. According to the results of their research, a particular issue that needs to be addressed in connection with the escalation of aging processes and its consequences for the financial stability of the state is the reform of national pension systems. (Libanova E. M. 2010). During the last two decades in Ukraine and Poland pension system reforms aimed at improving their parameters in order to increase the effectiveness of the social and economic tasks of the development of both countries are being implemented. However, demographic trends require further reform of the pension sector, as the financial support of retirement age citizens remains insufficient. As scientists today point out, the world (and not only Ukraine and Poland) faces the need for a comprehensive reform of the pension system, which will involve the creation of new schemes, on the one hand, and on the other adaptation to the new demographic conditions of traditional schemes.

3. Main Research Results

The aging of the population is considered to be the main characteristic feature of the demographic sphere of modern European society, including Ukraine and Poland. According to most experts, the process of aging of the population in its essence is positive, which indicates a rather high level of social development and should be perceived as an accomplishment, and the skills, experience and resources of older age groups - as a growth factor. The World Assembly's Second World Assembly on Aging Report states that "in today's world, unprecedented wealth and technological potential have been accumulated, and that there are extremely favourable conditions for men and women to be able to live up to the elderly by being healthier and more secure; to achieve a more complete integration of the full participation in society; give them an opportunity to make a more meaningful contribution to the lives of their communities and the development of society; and to steadily increase the quality of
care and support of the elderly when they need it " (Lutz. W.; Sanderson. W.; Scherbov. S.2008, p. 3; ParlinskaA., Rudyk, R, 2019)

Table 1. The Dynamics of Population Growth and Retirement Age in Poland, Ukraine

<table>
<thead>
<tr>
<th>Years</th>
<th>Ukraine</th>
<th>Poland</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total population (million people)</td>
<td>Total retirement age, (thousand people)</td>
</tr>
<tr>
<td>2005</td>
<td>47.3</td>
<td>14.1</td>
</tr>
<tr>
<td>2010</td>
<td>46.0</td>
<td>13.7</td>
</tr>
<tr>
<td>2015</td>
<td>42.9</td>
<td>12.1</td>
</tr>
<tr>
<td>2017</td>
<td>42.3</td>
<td>11.9</td>
</tr>
</tbody>
</table>

Source: Own calculation on the base of data from, Pension Found if Ukraine Central Statistical Offices and EUROSTAT.

Figure 1. Population Pyramids in Ukraine and Poland 2005 and 2017

Sources: Own calculation on the base of data from Central Statistical Offices and EUROSTAT.
The study of the demographic situation in Ukraine and Poland shows the same trends as in most European countries: population decline, declining birth rates, and an increase in the proportion of older people. It should be noted that in Poland over the past ten years, the population has been roughly the same, even a slight increase (Figure 1 and Table 1). This happened mainly due to migration processes, as the fertility rate in Poland remains rather low.

The demographic development of Poland during the Soviet period is characterized by an increase in the population. Between 1961-1991, the population of the country increased by 27% and reached 38 million people. The decline in state support for the family institution in post-Soviet Poland led to a worsening of the demographic situation in the country, although it was less severe than in Ukraine. The birth rate in Poland declined more smoothly, and mortality did not grow as fast as in Ukraine. Moreover, by 2001, including in the country, the natural growth of the population declined quite slowly.

After the accession of Poland to the European Union, the migration process has considerably increased in the country. Citizens were able to travel freely to European countries, to continue to study and pursue their work there. In the country in 2002, for the first time since the war of 1945, there was a marked decline in the population, largely due to the emigration of young people to countries in Western Europe and the United States. In 2007-2012, the demographic situation improved somewhat, and then in 2013, the demographic indicators of the country deteriorated sharply due to lower fertility and increased mortality. In addition to natural population decline, emigration also has a significant negative impact on the demographic development of Poland. as the emigration balance of the country is mostly negative or close to zero. In general, the population of Poland is currently in an intensive aging stage.

The demographic processes in Ukraine can also be divided into two periods: Soviet and post-Soviet. During the Soviet period of Ukraine's population (in the post-war period - after 1945) increased population, significantly increased fertility and minimized migration of population outside the country were observed. This led to the fact that the population of the country, which in 1950 amounted to 37.5 million people grew to 51.5 million in 1990. This year marks the largest population in Ukraine during this period. In the post-Soviet period the demographic situation began to deteriorate significantly and the population declined steadily. In 2017, it already equalled 42.3 million people, which is 9.2 million less than in 1990 (Table 1).

<table>
<thead>
<tr>
<th>Indexes</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population (million people)</strong></td>
<td>Ukraine</td>
</tr>
<tr>
<td></td>
<td>42.1</td>
</tr>
<tr>
<td><strong>Number of pensioners (million people)</strong></td>
<td>11.7</td>
</tr>
<tr>
<td>Share of pensioners. to the total population (%)</td>
<td>27.7</td>
</tr>
<tr>
<td>Demographic load factor (%)</td>
<td>41.2</td>
</tr>
<tr>
<td>Coefficient of potential substitution (%)</td>
<td>19.4</td>
</tr>
<tr>
<td>Retirement factor (%)</td>
<td>21.8</td>
</tr>
</tbody>
</table>

**Source:** Own calculation on the base of data from, Pension Found of Ukraine, Central Statistical Offices and EUROSTAT.

The current demographic crisis in Ukraine, as well in Poland, manifests itself in the accelerated aging of the population and the corresponding increase in the proportion of citizens of retirement age. Over the past five decades the aging population of Ukraine has come close to the indicators of developed European countries, where these processes began at 100 - 200 years earlier. Taking into account the data of the 1959 census, the population of Ukraine was on the verge of aging - the share of people aged 60 and older was 10.5% of the total population. As a result of the 2001 census, the aging population reached 21.4%, which is almost double the previous figure. On the scale of E. Rosset it is characterized as very high. (Tkachenko L. 2008) The aging tendencies of the Ukrainian population continue at the present stage of development of society and in 2017 the share of the population of retirement age has already reached 28.1%, which is almost three times the 1959 data. According to the
UN projected calculations on the demographic situation in Ukraine confirm further processes of aging of the population.

Complex analysis of the demographic aging process involves the study and analysis of such basic demographic indicators as: the demographic load factor, the potential replacement rate and the retirement load factor. Using data presented in Table 2, let's look at their significance in Ukraine and Poland.

In 2017 the population in Ukraine and Poland respectively amounted to 42.1 million and 38.6 million people. The share of citizens of retirement age was at the level of 27.7% and 16.8% respectively. In Ukraine the share of pensioners in the general structure of the population is 10.9% higher than the corresponding figure in Poland. The demographic load factor shows the burden on society and the economy on the part of the population that does not belong to the able-bodied population. This category of population includes the population younger than 15 years of age and the population of retirement age. It is defined as the ratio of a dependent part of the population to an able-bodied or productive part of the population. For Ukraine it equals 41.2% and for Poland 39.6%. This indicator for both countries shows that the number of able-bodied population is more than twice the size of the population of the working age. This attitude creates a relatively low social burden for society. However it should be noted that Ukraine has a fairly high share of the "shadow economy" and not all able-bodied population pays insurance pension contributions to the Pension Fund of Ukraine. This is a very significant problem for the economy as a whole and especially for the national pension system.

The potential replacement rate, which is calculated as the ratio of the population below the working age to the number of able-bodied population. In Poland is 0.8 points higher than in Ukraine and in 2017 it is 20.6%. While the ratio of the retirement burden, which is determined by the ratio of the population of retirement age to the number of able-bodied population in Ukraine exceeds by 2.7 points the same indicator in Poland and equates to 21.8% respectively.

Researches show that the demographic processes of the second half of the 20th and first half of the 21st century primarily resulting from low birth rates and aging caused a change in the ratio of the number of retired and working people and thus the rise in the value of the pension system. Given the rising life expectancy at retirement age, which is characteristic of both women and men in the vast majority of economically developed European countries, this naturally led to an increase in retirement age. In most European Union countries the retirement age is set at 65 and in advanced Western Europe it is projected to increase to 67 years. In Poland today the retirement age for men is 65 years and for women - 60 years. In Ukraine, the retirement age is lower and is 60 years for men and 58.5 years for women.

However increasing the life expectancy at retirement age as well as increasing the number of people who are already receiving a pension or expecting it in the near future, contribute to an increase in retirement spending. This leads to an increase in the financial burden on national pension systems as well as on the economy as a whole. The national pension systems of Poland and Ukraine like most European countries have a tendency to increase costs. Retirement models that were created as quite effective requiring only the payment of insurance premiums for their funding gradually turned into a significant burden for the economy. Funds from the payment of insurance pension contributions are no longer sufficient to ensure an acceptable level of pensions therefore, it is necessary to increase the share of pension expenditures from the State Budget. Most scholars have come to the conclusion that traditional pension schemes that have been successful for decades have been on the verge of a financial collapse and have global threats to the financial security of public obligations (LibanovaE. M. 2010).

The national pension systems of Ukraine and Poland are multilevel. They provide for the use of redistributive and accumulative pension programs. In the Pension legislation of both countries can be noted that the formation of the national pension model includes the functioning of the joint pension system -the mandatory accumulation pension system and voluntary accumulative pension insurance. The all the foreseen levels are in force in Poland for a long period of time but mandatory retirement insurance in Ukraine has not yet been introduced.

According to experts in the field of pensions, the greatest problems with the social protection of retirement age citizens will arise and will continue to aggravate in those countries where the population is aging and decreasing (When should the state pension …). In modern conditions aging is
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a global phenomenon while population decline is predominantly a regional phenomenon. With the rapid decline in population against the backdrop of a rather high level of aging in Europe it is precisely the post-socialist states of Eastern Europe (including Ukraine and Poland) have faced this situation. Therefore, this situation in the demographic sphere does not contribute to raising the social standards for citizens of retirement age in both countries.

Table 3. The Level of Pensions and Wages in Poland, Ukraine and Germany in 2017

<table>
<thead>
<tr>
<th>Indexes</th>
<th>Ukraine</th>
<th>Poland</th>
<th>Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum pension (EUR)</td>
<td>46.7</td>
<td>198</td>
<td>380</td>
</tr>
<tr>
<td>Minimum wage (EUR)</td>
<td>102.9</td>
<td>339.3</td>
<td>1,498</td>
</tr>
<tr>
<td>Average pension (EUR)</td>
<td>79.8</td>
<td>348.8</td>
<td>1,250</td>
</tr>
<tr>
<td>Average wages (EUR)</td>
<td>282.3</td>
<td>993.3</td>
<td>2,245</td>
</tr>
<tr>
<td>The ratio of minimum pension in minimum wage (%)</td>
<td>45.4</td>
<td>58.4</td>
<td>25.4</td>
</tr>
<tr>
<td>The ratio of minimum pensions in average wages (%)</td>
<td>16.5</td>
<td>19.9</td>
<td>16.9</td>
</tr>
<tr>
<td>The ratio of average pension in average wage (%)</td>
<td>28.2</td>
<td>35.1</td>
<td>55.6</td>
</tr>
</tbody>
</table>

Source: Own calculation on the base of data from, Pension Fund of Ukraine, Central Statistical Offices and EUROSTAT.

In Poland, the minimum pension in 2017 was almost two times lower than in Germany when the average pension is almost 3.5 times smaller (Table 3). When analysing social standards in Ukraine, it is worth noting that they are much lower than in Poland while Western Europeans are many times higher than Ukrainian indicators. Thus, the minimum pension in 2017 in Ukraine was 4 times less than in Poland and 8 times lower than in Germany If we give an assessment of the average pension then the same ratio is maintained between Ukraine and Poland as in the minimum pension - 4 times. and in comparison with Germany, this indicator is significantly lower. Pay attention to an indicator that characterizes the level of replacement of the average pay. Thus, in Germany the average pension amounts to 55.6% of the average national salary, whereas in Poland and Ukraine it equals to 36.1% and 28.2% respectively. Again it characterizes that the income level of German pensioners is much higher than in Ukraine and Poland.

Existing demographic processes make both countries carry out the next steps in reforming their national pension systems. In Ukraine, it is believed, that the current solidarity pension system cannot continue to exist without significant parametric changes that should balance the revenues and expenditures of the Pension Fund of Ukraine, significantly reduce the degree of differentiation of pensions with its transfer to the accumulation components, to free the Pension Fund from the financing of all expenditures not of an insurance nature. It is necessary to introduce and develop the second and third levels of the national pension system. However given the insufficient development of the stock market the instability of the economic situation in Ukraine and the massive distrust of any form of long-term accumulation of funds it has to be admit that typical pension reform recipes for the modern world may prove ineffective for Ukraine. All the more so Poland’s experience with the use of accumulative pension insurance confirms this. Starting in July 2014 the use of accumulative pension insurance in the country is not mandatory. Insured persons may voluntarily enter into an open-ended pension fund (OFE) agreement and pay 2.92% of their salary to their insurance contributions and may transfer these funds to the social security fund which accumulates the financial resources of the joint-stock pension system.

4. Conclusion

Summarizing the above, it should be noted that demographic processes have a significant impact on the functioning of national pension systems in most countries. Characteristic phenomenon for them in modern conditions is the aging process of the population. It manifests itself in the growth of the proportion of older people in the total number of people who have reached retirement age. The response of society to the rapid increase in the number of retirement age people has been accelerated development and further transformation of pension systems. The national pension systems of Poland and Ukraine in recent years have also undergone significant changes due to the need to respond to
demographic challenges and increase the average life expectancy of the population. Such trends in the demographic sphere have affected the growth of the number of pensioners.

Governments are trying to find solutions to the problem of filling pension funds to avoid risks in the future. Along with the task of stimulating childbearing the main emphasis should be placed on minimizing the current and future socio-economic consequences of aging populations. The level of pensions in both countries does not fully satisfy citizens of retirement age. Against the backdrop of Western European countries, in particular Germany, the level of pensions in Poland is several times lower. But comparing it with similar indicators in Ukraine, it is several times higher.

Thus Poland and Ukraine face the need for a comprehensive reform of the pension system, which envisages the creation of new schemes, on the one hand and adaptation to the new demographic conditions of traditional pension models - on the other.

References

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