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STATEMENT OF PURPOSE

Journal of Economic and Social Studies (JECOSS) aims to develop scientific knowledge in the areas that include, and are related to Economics, Management, Financial Economics and Banking, Accounting, Marketing, Quantitative Methods and Econometrics, International Relations and Policy Development. As an international social sciences journal with interdisciplinary feature, it will set a ground to bring social science communities across disciplines identified above with a view for sharing information and debate. The journal publishes refereed articles and technical research notes that build on theory and contemporary scientific knowledge. Articles submitted to JECOSS will be peer-reviewed and expected to report previously unpublished scientific work. Submitted manuscripts should follow journal format and referencing guide and should not be under consideration elsewhere.

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CONTENT

Refereed Articles

Improved Business Climate and FDI in the Western Balkans

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Abstract: *The process of economical and political transition in the Western Balkans, up to this point has shown a high correlation between achieved economical results and the determination of national authorities for drawing and implementing policies for economical stabilization and development as well as structural reforms with the support of the International Monetary Fund, the World Bank and other relevant international institutions.*

The analyzed countries from the Western Balkans region have managed to achieve appropriate levels of macroeconomic stability and an improvement of the business climate due to the implemented reforms, these countries have not been successful enough in attracting Foreign Direct Investments as a precondition to ensure a more dynamic economical development and an appropriate fall in the level of unemployment and poverty.

A comparative analysis of the real economic indicators of the Western Balkans countries as contracted to the EU average shows that these countries are well under the real convergence levels of the EU countries.

The main objective of the paper is to provide some additional arguments regarding the potential positive or negative correlation between the business climate and the levels of Foreign Direct Investments in the Western Balkans countries, some of which are already members of the EU and others aspiring to become members in the future, having in mind the asymmetric economic positions of the countries being analyzed.

Keywords: *Busines Climate, Structural Reforms, Foreign Direct Investment, Economic Development, Western Balkan Countries, Europian Union*

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Introduction

The complex political and economic transition in the countries of the Western Balkans in the past two decades has been accompanied by numerous economic and political asymmetrical strokes.

During this complex process the governments of the countries of the Western Balkans (WB) with the assistance of the IMF and World Bank implemented the economic policies that aimed to achieve macroeconomic stabilization, transformation and privatization of state owned enterprises and to reform the economic system and public institutions.

After two decades of implementation of intensive economic policies the countries of the Western Balkan have achieved macroeconomic stabilization but the results in reforming the economy, reforming the public sector and the public institutions are in insufficient level and continue to remain challenges for these countries in the future.

In fact, the asymmetric development during the previous system and the low levels of economical growth in the first decade of the transition followed by increasing levels of unemployment, poverty, the large informal sector and fiscal evasion were the main obstacles in implementing deep institutional reforms and establishing a functional market economy in the Western Balkan's (Osmani & Mazllami, 2014).

The process of economic and political transition in the Western Balkans due to achieved asymmetric results do not solve in approriate level three main problems of economic transition (Commander, 1991).

1) Finding a new balance between private sector and public sector,
2) Finding the balance between profits and wages in the private sector, and
3) Finding the balance between monetary and fiscal policy within the strategy that aim macroeconomic stabilization and economic development.

Three balances realized at transition countries of the Western Balkans are in suboptimal levels as a result of numerous deficits and economic and social problems, lack of voluminous local and foreign investment and significant delays in the implementation of economic and institutional reforms as a result of lack of national political consensus.

Delays and poor quality of structural reforms still remain as the major obstacles in attracting foreign investment although as serious progress was made in terms of creating a more favorable environment business largely of formal nature.

As a consequence, that indicator "Ease of Doing Business" does not include areas such as: the level of corruption, independence of the judiciary, the size of the market, political and economic risk and functionality of public institutions, this indicator does not reflect the full attractiveness of business environement as crutial precondition in attracting foreign direct investment.

Despite the fact that Macedonia on the basis of the indicator, Doing Business, in the period 2010-2015 is listed as a leader in the West Balkans, country has realized the lowest level of foreign direct investment in volume and quality compared to the West Balkans and EU countries.

Due to the low level of foreign direct investment, the lack of national investment, the hesitation of the banking sector in financing new investments as a result of the growth of bad loans and considerable reduction of economic remittances Macedonia remains as the country with the highes level of unemployment and poverty in Europe.

The research aims to analyze the correlation between the level of ranking of countries according to the indicator, Doing Business, and the level of foreign direct investments in countries such as Croatia and Bulgaria that are part of the EU and the countries aspiring to join the EU with special emphasis in the case of the Republic of Macedonia.

The importance of correlation between the quality of business environment and attraction of foreign direct investment is linked closely with the aspiration of the countries of West Balkans for integration into the EU as a precondition have the fulfillment of the Maastricht and Copenhagen criteria.

These criteria aim of improving the business environment, attracting foreign investment, creating a functional market economy as a prerequisite for a qualitative integration of the economies of the West Balkans into the largest market of the EU.

Literature Review

Rich literature exists on the field of doing business and on the field of foreign direct invesment. The "Doing Business" website reports more than 100 academic papers in 50 academic journals, as of December 2014. However, only two papers have examined the Ease of Doing Business indicator and its correlation with foreign direct invesment in the ex-socialist countries in Westren Balkan (Petreski & Jovanovic2014).

Petreski is focused on the growth aspecst of the ease of doing business, in 30 ex-socialist countries, for the period 2005-2011. Petreski's paper titled Regulatory Environment and Development Outcomes: Empirical Evidence from Transition Economies, measures the ease of doing business by the aggregate index and by the 10 sub-indices.

The study of Jovanovic "Ease of doing business and FDI in the Ex–socialist countries" investigates the ease of doing business, measured through the Doing Business indicators of the World Bank, and aspects of foreign direct investment in 27 ex-socialist countries.

Results point out that there is a lot of uncertainty regarding the effects, with most of the indicators being either insignificant or lacking robustness. It also seems that investors are discouraged by bureaucracy, because four of the five indicators that are significant in either of the estimations refer to bureaucratic impediments, not to financial cost (Jovanovic & Jovanovic, 2014).

Research Methodology

In order to meet the set objectives of this paper, that is to determine correlation between the ranking of the countries of the Western Balkans by indicator, Doing Business, and the level of realized foreign direct investment.

The timeframe for the research is 2007-2013 including the following countries: The Republic of Macedonia (MKD), The Republic of Albania (ALB), the Republic of Kosovo (RKS), Montenegro (MNE), Bosnia and Herzegovina (BIH), Serbia (SRB), Croatia (CR) Bulgaria (BG), the average of West Balkan and the average of European Union countries (EU27).

By using common statistical and descriptive methods we provide a proper empirical and comparative analysis of the process of improving the business environment, the realization of foreign direct investment and remittances among these countries and compared to the EU27 averages.

Structural Elements of the Doing Business Indicator

The Doing Business Indicator of the World Bank includes 11 areas based on standard methodology with the objective of measuring the attractiveness of the business environment in 189 countries worldwide.

Table 1: *Structural Elements of Doing business,*

Structural elements of ,,Doing business,,	Eleven areas of business regulation
I.Complexity and cost of regulatory processes	Six areas of business regulation
1.Starting a business	Procedures, time, cost and paid-in minimum capital to start a limited liability company
2.Dealing with construction permits	Procedures, time and cost to complete all formalities to build a warehouse
3.Getting electricity	Procedures, time and cost to get connected to the electrical grid
4.Registering property	Procedures, time and cost to transfer property
5.Paying taxes	Payment, time and total tax rate for a firm to comply with all tax regulations
6.Trading across borders	Documents, time and cost to export and import by seaport
II.Strength of legal institutions	Five areas of business regulation
7.Getting credit	Movable collateral laws and credit information systems
8.Protecting minority investors	Minority shareholders right in related - party transactions and in corporate governance
9.Enforcing contracts	Procedures, time and cost to resolve a commercial dispute
10.Resolving insolvency	Time, cost, outcome and recovery rate for a commercial insolvency and the strength of the insolvency legal framework
11.Labor market regulation	Flexibility in employment regulation, benefits for works and labor dispute resolution

Source: World Bank group, Doing Business 2015, Going Beyond Efficiency, 12th edition.

In the framework of the many areas assessed by Doing Business, two are key structural elements: the complexity of the legislation and the cost of making business; and the strengthening of legal institutions in the function of doing business.

Doing Business, integrates 11 business areas that manifest the complexity and cost of regulatory processes and the area of strengthening the legal institutions in the function of improving the business environment.

It should be emphasized that despite the fact that indicator "Doing Business" includes a representative number of regulations of business fields, in different contries the importance of the specific criteria directly depends on the level of economic and social development, functionality of institutions and courts in particular, the level of corruption, organization of trade unions and political and social stability of the country.

Western Balkan countries with weak public institutions have many institutional problems that reflect negative effects on the attractiveness of the business environment and in attracting investment in general and foreign direct investment in particular.

Within the 11 criteria assessed by the Doing Business indicator, there is a high level of asymmetry in some structural elements such as: permits for construction, registration of property, enforcement of contracts, payment of taxes, protection of the minority shareholders, market regulations, quality of labor force and the minimum wage paid.

Asymmetric Business Environment in the Capitals of the Western Balkan Countries

Analysis of key criteria of doing business in terms of starting a business, obtaining the construction permit, registration of property and execution of contracts in the capitals of the countries of BP argues highly asymmetric business environments of the analysed countries.

Table 2: *City Differences: A Comparative Analysis of WB Capitals*

Description		Belgrade	Podgorica	Prishtina	Sarajevo	Skopje	Tirana
Starting a Business	Procedures (number)	7	7	10	12	3	5
	Time (days)	13	10	58	50	3	5
	Cost (% of income per capita)	8	2	29	15	3	31
	Paid-in min. capital (% of income per capita)	6	0	112	30.5	0	0
Dealing with constr. Permits	Procedures (number)	21	18	21	19	15	no practice
	Time (days)	349	287	320	182	129	no practice
	Cost (% of wareh.value)	1,782	2,132	856	1,166	1,792	no practice
Register property	Procedures (number)	6	7	8	7	5	6
	Time (days)	91	71	33	33	58	33
	Cost (% of property value)	2.7	3.1	0.6	5.3	3.1	3.4
Enforcing contracts	Time (days)	635	545	420	595	370	390
	Cost (% of claim)	29	26	61.2	40.4	33	36
	Procedures (number)	36	49	53	37	37	39

Source: Author's own calculations based on World Bank: Doing Business.

The capital of Macedonia (Skopje) is the place where most functional economic areas are concentrated and represents the most attractive business environment compared with other capitals of West Balkan countries.

Skopje has an edident administrative advantage of 50% for doing business compared with other Balkan capitals, Podgorica (Montenegro) is second accompanied by the

Kosovo capital Pristina, while Sarajevo (BiH) and Tirana (AL) are capitals which are characterized by significant administrative barriers and bureaucracy.

Ranking of Countries of the WB and the EU on the Basis of the Indicator of the World Bank "Doing Business"

Data published by the World Bank for the period 2007-2013 show a business environment with trends of improvement in all the countries of the Western Balkans with the exception of Bosnia and Herzegovina, the country in which the business environment marked a fall in 16 places compared with the previous analysed period.

Table 3. *A comparative Analysis of Ranking of Countries of WB (2007-2013)*

Countries	2007	2008	2009	2010	2011	2012	2013
Macedonia	93	79	69	32	38	22	23
Montenegro	72	80	77	71	66	56	51
Bulgaria	47	44	42	44	51	59	66
Croatia	116	105	110	103	84	80	84
Albania	132	136	89	82	82	82	85
Serbia	83	91	90	88	89	92	86
Kosovo	-	-	107	113	119	117	98
Bosna and Herzegovina	110	118	119	116	110	125	126
Average for WB	82	82	88	81	80	79	77

Source: Author's own calculations based on World Bank, Doing Business.

Analysis of Doing Busness, for the period 2007-2013 shows quite asymmetric positive trends in the countries analyzed except Bosna and Herzegovina, the country in which the business environment has deteriorated compared with 2007.

Greater improvement of business environment has highlighted Macedonia progressing for 70 places and ranging in the position 23rd worldwide. Many institutional reforms made in terms of reducing the cost of doing business, reducing the bureaucratic procedures, facilities in the labor market, putting into function of real estate market, increasing the efficiency of executions in contested proceedings, the tax cuts and investment in infrastructure funded by the government of the country in function of attracting FDI contributed to the improvement of the business environment in the period (2010-2015) in the case of Macedonia.

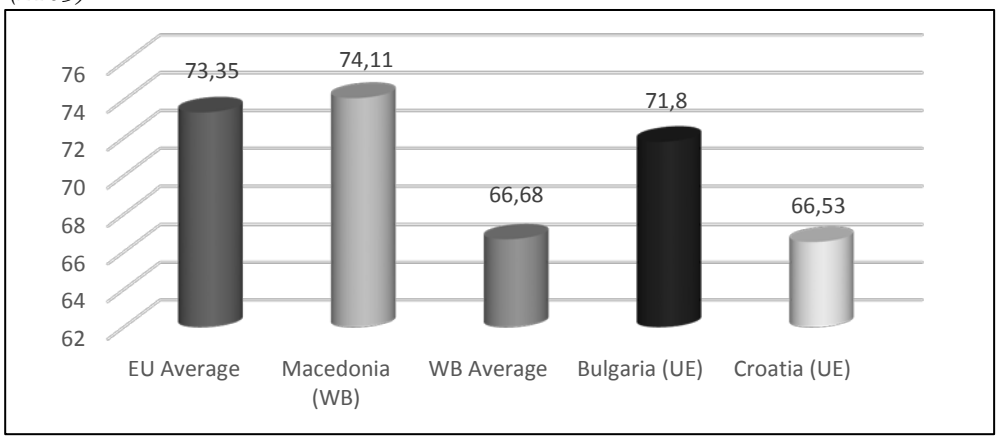
Macedonia is accompanied by Montenegro in the 51st, Bulgaria in the 66th and then followed by other countries of WB; Bosnia and Herzegovina is ranked at the bottom of the WB countries in terms of business attractiveness.

Two EU member countries of the Western Balkans (Bulgaria and Croatia) have highlighted asymmetric trends in terms of business attractiveness despite the fact that during the process of EU integration by fulfilling the Copenhagen criteria the two countries have implemented deep institutional reforms with the objective of creating a functioning market economy supported by functioning institutions.

The slow progress of Kosovo in the sense of creating attractive business environment is addressed mainly to political and security risks as a result of the contestation of independence from neighboring Serbia and the fact that the local Serb population has created protected area of the informal economy, smuggling and tax evasion that is out of control of the legal government of Kosovo.

The reasons for a low ranking of BiH are mainly political in nature as a result of political instability and numerous political risks and security risks that directly affect the creation of aversion of investors for investing in the country where institutional guarantees are minimal for protection and development of business as a result of permanent conflicts between institutions of local, regional and central levels.

Figure 1. *Ease of Doing Business: A Comparative Analysis of some countries of WB (2105)*



Source: Author's own calculations based on World Bank, Doing Business.

Assessment made on the basis of Ease of Doing Business by the World Bank and reflected in Figure 1 highlights a minimal difference of 2.3 points advantage of Macedonia in relation with Bulgaria despite the fact that based on the same criteria Macedonia is ranked 43 places higher.

Assessment made on the basis of the Ease of Doing Business criteria, for 2015 substantially cancels ranking based on the indicator, Doing Business, and imposes the need for a harmonized structure of both indicators in function of objective reflecting the real attractiveness of the business environment and the ranking of the countries analyzed.

The particularity of this ranking lies in the fact that there is a substantial difference in the level of ranking for different countries of the Western Balkans despite the fact that all governments of the analyzed countries are implementing similar policies with the objective of attracting foreign direct investment in the sense of tax level, fiscal facilities, elimination of the of bureaucracy and reducing business costs and other bareers for foreign investors.

The Trend and the Level of FDI in the Countries of the Western Balkans

There are promising trends in global foreign direct investment (FDI) flows for developing and transition economies. Each year more and more FDI is flowing not only from developed into developing economies but also from one developing or transition economy to another.

Indeed, developing and transition economies'share of global FDI inflows rose from roughly 19 percent in 2000 to 52 percent in 2010—for the first time exceeding half the total. And half the top 20 FDI recipients in 2010 were developing or transition economies (Hornberger et al, 2011).

This improvement in principle addresses the improvement of business environment, lower business cost and taxes and elimination of administrative and bureaucratic barriers in countries in transition.

Analysis of the trend and volume of foreign direct investment realized in the period 2007-2013 in the Western Balkan countries shows opposite trends compared to the trend observed by the report of the World Bank in the period 2000-2010.

Table 4: *The FDI ($) in the Western Balkan's (2007-2013) (milions $)*

Countries	2007	2008	2009	2010	2011	2012	2013
Croatia	4947	5812	3400	845	1242	1336	588
Serbia	3432	2996	1935	1340	2700	3553	1377
Bulgaria	1387	1030	3897	1867	2124	1578	1888
Albania	652	1240	1343	1089	1049	920	1478
Montenegro	937	975	1549	758	556	618	446
Bosna&Herzegovina	1804	1005	1385	444	469	350	322
Kosovo	603	537	408	487	546	293	343
Macedonia	733	612	259	300	495	283	376
Average of WB	1812	1776	1772	891	1148	1116	852

Source: Author's own calculations based on IMF and World Bank reports.

Analysis of the trend of foreign investments in the countries of WB has been heavily influenced by the world financial crisis which consequently produced substantial decreasing of FDI. In the WB in 2007 were realized in total FDI $ 12.684 million, while in 2013 the FDI were realized at the level of $ 5.694 million, that represents a decrease of $ 6.990 million a fact which demonstrates a negative trend and decrease of the interest of foreigner's investors for investing in a region identified as high-risk political with fragile and corrupted institutions.

Table 5. *FDI in Countries of Western Balkan (2007-2013) (millions $)*

Country	Total FDI	Average FDI
Croatia	18.172	2.596
Serbia	17.332	2.476
Bulgaria	13.832	1.976
Albania	7.770	1.110
Montenegro	5.838	834
Bosnia and Herzegovina	5.775	825
Kosovo	3.213	459
Macedonia	3.052	436
Average for WB	9.373	1.339

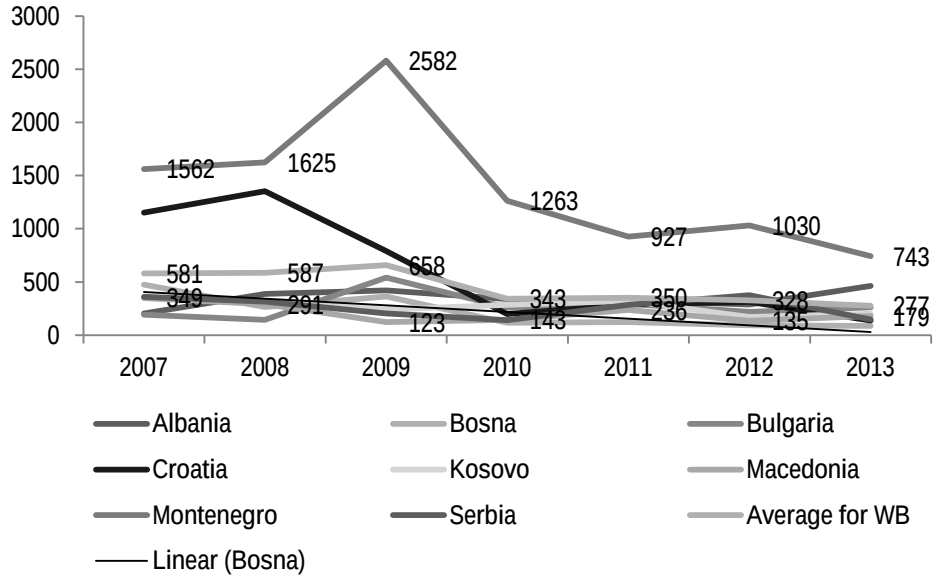
Source: Author's own calculations based on IMF and World Bank reports.

Based on the analysis of the volume of realized FDI in WB countries in the period 2007-2013 Croatia ranked first with a total of 18.172 million US dollars of FDI accompanied by Serbia and Bulgaria $ 17.332 million with $ 13.832 million.

Despite the fact that Croatia has achieved the highest level of cumulative FDI, investments carried out in this country in 2013 were at level of 10% of FDI realized in 2008 that argues a very high negative trend which is characteristic for all countries of WB and it can not be explained only by using the financial crisis as an aliby.

The trend of decreasement of investment is characteristic of all countries of WB without exception with high negative effects at the countries with the lowest level of economic development (Kosovo, Bosnia and Herzegovina and Macedonia) ,the countries that are suffering from the syndrome of low investment , high unemployment and poverty in WB and in Europe.

Figure 2: *Foreign Direct Investment – per capita ($) (2007-2013)*



Source: Author's own calculations based on IMF and World Bank reports.

The comparative analysis of FDI per capita in the countries of WB reflects very low levels of FDI of all countries with the exception of Montenegro. FDI per capita despite the negative trend continue to be several times over the average of countries of WB as a result of the fact that this country has only half a million residents who live in this country.

While in the case of Bosnia & Herzegovina and Kosovo the political and security reasons that produce large risks for serious foreign direct investment, in the case of Macedonia we have a paradoxical phenomenon of very high level of ranking of this country based on indicator, Doing Business, and very low level of FDI.

The Trend and the Level of Remittances in the Countries of the Western Balkans

The level and trend of remittances in the countries of the Western Balkans is in direct dependency on the number of economic migrants. On the basis of financial flows leads Serbia with over $ 4.3 billion as a result of the fact that it is the country with the largest number of population and emigrants in WB.

Table 6: *Remittances in the Western Balkan's (in millions $US)*

Country	2010	2013
Albania	779	1.156
Bulgaria	1.611	1.331
Bosnia and Herzegovina	1.895	1.822
Croatia	1.500	1.213
Montenegro	357	300
Serbia	4.357	4.345
Average for WB	1.508	1.558

Source: Author's own calculations based on IMF and World Bank reports.

The highest level of economic remittances compared to FDI despite the fact that the authorities of the countries of the WB do not provide economic and fiscal facilities, needs to be in focus of economic policies in the future as an important opportunity for investment and economic development.

Low Level of FDI despite Attractive Business Environment in Macedonia

In the analyzed period (2007-2013) Macedonia has had serious progress in improving the business environment. In 2014 Macedonia was ranked as the leader of WB countries (23 worldvide), a fact that requires a special analysis having in mind that this progress did not produce positive trends of FDI.

Table 7. *WB Ranking: A Comparative Analysis of WB Average, Macedonia and Croatia*

Countries	2007	2008	2009	2010	2011	2012	2013
Macedonia	93	79	69	32	38	22	23
Croatia	116	105	110	103	84	80	84
WB Average	82	82	88	81	80	79	77

Source: Author's own calculations based on World Bank reports.

Analysis of the level of realized FDI in comparison with economic remittances and set in correlation with ranking of countries of WB based on Doing Business reflects large discrepancies. The low level of realized FDI in Macedonia denies positive correlation between FDI and the ranking of attractiveness of the business environment.

This asymmetry is quite large in the case of Macedonia; this country is ranked as a leader in terms of business attractiveness while at the level of FDI has realized the lowest level of FDI.

Table 8. *FDI: A Comparative Analysis of WB Average, Macedonia and Croatia*

Countries	2007	2008	2009	2010	2011	2012	2013	Average 2007-2013
WB Average	1812	1776	1772	891	1148	1116	852	1339
Macedonia	733	612	259	300	495	283	376	436
Croatia	4947	5812	3400	845	1242	1336	588	2596

Source: Author's own calculations based on IFM and World Bank reports.

In a research made by Osmani and Deari (2009) regarding the measurement of political, economic and financial risk in Macedonia it is concluded that the majority of businessmen have serious remarks on: poor quality of public administration, huge policy influence on functioning of the judicial system, high level of corruption and implementation of fiscal selective controls by fiscal authority.

This low level of FDI reached in Macedonia is quite symptomatic taking into account the fact that the law for free economic zones in Macedonia ofer numerous fiscal, administrative and infrastructure convenience for foreigner investitors.

The law on free economic zones of Macedonia provides numerous facilities for foreign companies that decide to invest in Macedonia. These foreign companies are

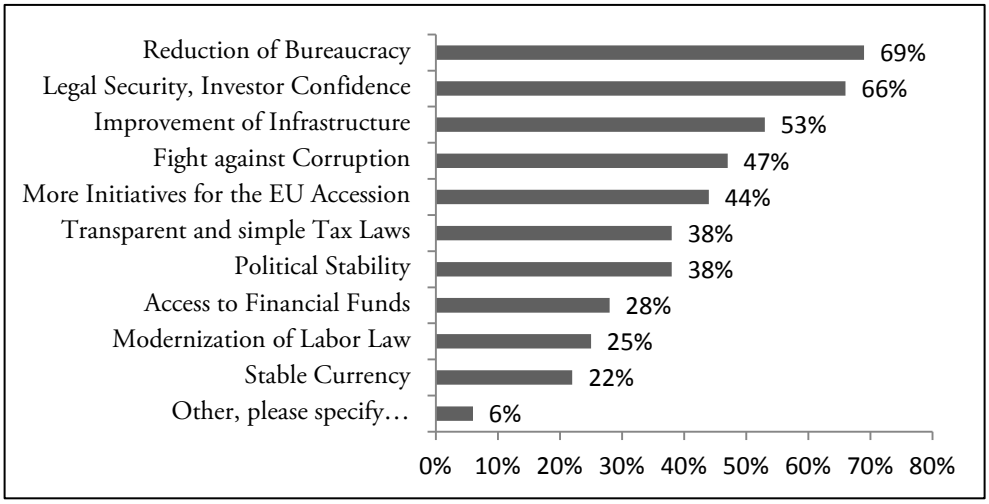
obligated to the period of 2-10 years to export at least 50-70% of total production realized in free economic zones as a prerequisite for exploiting the numerous benefits of fiscal and infrastructure.

Foreign investors in the framework of free economic zones if export 70% of total production are released in a period of 10 years from the payment of corporate income tax, property tax and sales tax within the economic zone.

Foreign companies that invest in economic zones can buy the building land or industrial land with a symbolic price (of 1 euro per m^2). A great facility for business in free economic zones is the fact that at major economic areas of the country the government has invested in the construction of basic infrastructure for full functionality of economic free zones.

A survey done by business investment office of the Austria (Schlattl, 2013) in Skopje pointed out these concerns which directly affect the low level of foreign investments in Macedonia: Reduction of bureaucracy with 69%, the legal security of investments by 66%, improved infrastructure with 57%, fighting corruption by 47%, delays in EU integration and political instability with 45%.

Figure 3: *What are Requirements of Business Community from the Macedonian Government*



Source: Author's own calculations.

The report of EBRD 2014, survey done with managers of 15,500 companies who work in 29 countries mainly in Eastern Europe emphasizes the main problems as: the informal economy and tax evasion, difficult access to finance for private companies, unequal treatment of tax administration and other administrative bareers.

The transition experience from centrally planned to market economy is an historically unprecendented process (WB Report), and that process is not finished in many contries in Eastern Europe and Former Soviet Union.

In the context of an unprecedented process of political and economic transition that the countries of WB have undergone, it is possible to have unprecedented results, in one side significantly improving of the business environment and in other side very low levels of FDI, as is the case of Macedonia.

Conclusions

The Western Balkan countries in a permanent cooperation with the IMF, the World Bank, and during the integration process in the EU have implemented many institutional reforms as a function of preserving economic stability and creating suitable business climate as a precondition for dynamic economic development.

Implementing permanent economic and political reforms by the Western Balkan countries have resulted to formal improvements of their business climate measured by the World Bank "Doing Business" indicator.

Despite the improvement of business climate of the Western Balkan countries, this positive trend of business climate has not been accompanied by an increase of investments in general and FDI in particular.

In this direction, Macedonia is a paradoxical case because the country is ranked as 23rd at the global level for suitable business climate but it has the lowest level of FDI among the Western Balkans countries.

The lack of positive correlation between "Doing Business" and the level of FDI in the case of the Western Balkan countries signals the need for structural modification of this indicator with more qualitative elements concerning the real functionality of the institutions that directly affect the business climate.

Despite the low fiscal burden and numerous investing easiness of doing business provided to foreign investors there is still a low level of FDI in the Western Balkan countries which is due to the fact that these countries are characterized by high levels of informal sector and tax evasion, bureaucratic procedures, politicization of public institutions and volatility of public institutions. Improvements in this area are the main investing and developing challenges for all governments of the countries of Western Balkan without any exclusion.

A faster integration of all Western Balkan countries in NATO and the quality fulfillment of the criteria of Maastricht and Copenhagen in the process of integration to EU are substantial prerequisites for minimizing the political and security risks especially in the case of Kosovo, Bosna and Herzegovina and Macedonia which are prerequisites for improving the business climate and realizing more FDI in all the Western Balkan countries as a common economic and investment market.

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The Role of Monetary Policy as the Foundation of Economic Development in Bosnia and Herzegovina

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Abstract: *Macroeconomic stabilization of every country depends largely upon the conduct of appropriate economic policy, which comprises both fiscal and monetary policy; therefore, it is of great importance to choose the most adequate and productive ones. Many countries across the board have employed monetary policy in their attempt to ease the consequences of economic crises in the aftermath of global financial meltdown, and in the search for sustainable economic development. This paper was confined to the monetary policy in Bosnia and Herzegovina specifically, and its aim was to address the current Currency Board Regime along with the available monetary policy instruments and to determine whether an opportunity for the improvement of economic growth and consequently economic development lies within it. The importance of Central Bank was stressed out, as it represents the anchor of the monetary system. The paper comprises the analysis of the implemented CBR, its brief history, monetary policy instruments available and its consequences on the economy of B&H and based on that, the recommendations for exit-strategy which, ceteris paribus, represent a key to achieving higher levels of development. The economic indicators suggested that macroeconomic performance under CBA is not advantageous for B&H; therefore, it is thought that abandoning the arrangement either by joining the EMU or by making the Central Bank more independent is necessary.*

Keywords: *Macroeconomic Stabilization Monetary Policy Instruments;B&H Currency Board Regime; Economic Development; Monetary Easing*

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Introduction

Every country, in order to achieve macroeconomic stability, full employment and improved living standards for its citizens, faster economic growth and consequentially economic developmentneeds to conduct appropriate economic policy. Government has three instruments to achieve objectives of economic policies in a certain nation, namely investments, direct government and by state owned enterprises, as well as fiscal and monetary policy. An important part of every country's economic policy is therefore monetary policy, whose aim is, by influencing the availability of credit and cost, tostabilize the prices, exchange rate and amount of money in circulation, to control inflation and maintain equilibrium of balance of payments.

Monetary policy actions need to adjust to changes in the financial systems of countries, which happen regularly. Therefore, the model of managing the monetary policy has to be chosen with a lot of care.

The use, influence and objectives of monetary policy have changed in the aftermath of the global financial crises and consequent global recession. One of the heritages of the seventies was the fear of high inflation that devours the value of everything in a single economy. This fear was multiplied in countries of the region by hyperinflation of the eighties. The terror of inflation has the left much of the world with the primary concern with general increase of prices for monetary policy. However global crises caused triggering the concept of easy money through what was later called monetary easing, with primary goal of revitalizing stumbled economic activities without any fear of overheating the economy with possible inflation. The paradigm has hence changed; monetary policy no longer targets levels of price at least not as its primary concern, but unemployment and other economic malaise produced by economic crises and attempts to assist together with other instruments of economic policy in achieving economic development.

The subject of this paper is the monetary policy and its instruments, especially in Bosnia and Herzegovina, and it being the potential for achieving economic development. Throughout the paper, the importance of Central Bank will be highlighted as it represents the pillar of monetary system and is the holder of monetary policy. The method which will be used to serve the aim of the paper is a combination of modelling method, inductive method and Delphi method.

Furthermore, the task of the paper is to address the Currency Board and to present possible changes in monetary policy that potentially could be the key to achieving faster growth and enabling the country to become economically stable.

Literature review

The topic of Currency Board Arrangement (CBA) has been used as a main research topic for many years, since many countries, at either same time or at different points in time, have experienced currency fluctuations and consequently financial instability and since currency boards have been existing for more than 150 years. The CBA was also the cover topic of most prominent economic newspapers, including The Economist. The most prominent study of currency boards was by Hanke and Schuler (1994) who provided with a comparison of currency boards versus central bank regime, highlighting benefits and disadvantages of each. Comparative statistics and formal econometric analysis of Gosh, Gulde and Wolf (1998) confirmed that, historically, currency board arrangements have achieved better performance and better results than any other fixed exchange rate regime (Fabris & Rodić, 2013). In addition, it has been found, through statistical and econometric analysis of Gulde, Julia and Keller in 2000, that the performance of inflation has been significantly better, meaning lower, and higher growth has been achieved under currency boards than under floating exchange rate regimes (Gulde, Julia, & Keller, 2000). Holger C. Wolf in his book "Currency Boards in Retrospect and Prospect" gave a synthesis of many different studies on this topic, focusing on the early forms of currency boards, the example of Argentina, stating that its disinflation success could be because of the CBA, but at the same time the CBA, with the lack of fiscal discipline, was the cause for financial crisis that happened afterwards. The third part of the book was devoted to explaining the most recent currency boards, including B&H's CBA as the youngest, i.e. the last one implemented. It has been argued that despite different reasons for its implementation, European currency boards had the same objective of eventually abandoning it in order to be accepted into Eurozone membership (2008). As regards to the CBA in B&H topic, not much literature is available. The former Governor of the Central Bank B&H Kemal Kozarić presented an overview of the monetary policy regimes, with the review of the CBA currently implemented, and thereby stressing its advantages out (Kozarić, 2007). In addition, both Kovačević Dragan and Ivona Kristić have the same view on the effects of CBA on B&H's economy, thereby emphasizing the stability achieved with the fixation of local currency. However, other literature, including the paper "Understanding of the Currency Board System in Bosnia and Herzegovina" by Ferizović Mersud and

Ferizović Naida accentuate that CBA has been beneficial in the immediate postwar period for B&H, but however it needs to be restructured so that the increased competitiveness of the country can be achieved.

Current Monetary Policy of B&H: The Currency Board Regime (CBR)

Bosnia and Herzegovina has the Currency Board implemented as the monetary policy regime, and it limits the authorities of the Central Bank.

Currency Board is an arrangement in which the domestic currency is with a fixed exchange rate tied to another currency which represents the "Anchor", gold or to a basket of currencies where all the money in circulation can be freely converted into reserve currency and where the functioning of the Central Bank is clearly prescribed by the Law on the Central Bank. Currency Board functions by the rules of passive monetary policy and it lacks the ability of implementing basic monetary policy instruments. However, it is known by its simplicity, transparency and precise rules (Kozarić, 2007).

Brief History of the Currency Board in B&H
Establishment of the Currency Board was built as Annex 4: Constitution into the Dayton Peace Agreement, which was initiated and concluded in Dayton, Ohio, United States on 21st November 1995 and it was officially signed 14th December 1995 in Paris (Fabris & Rodić, 2013).

Article VII of the Constitution appointed Central Bank of Bosnia and Herzegovina (CBBH) as the only authority for conducting monetary policy throughout Bosnia and Herzegovina and with the approval to issue currency. In addition, it is stated that only Parliamentary Assembly could give the authority to Central Bank to extend credit by crating money, but only after six years since the adoption of the Constitution pass (OHR, 1995).

Main motivation behind the implementation of Currency Board was the complex political situation in B&H, which made decision-making on political issues, on a single level, very difficult (Kozarić, 2007). Moreover, other reasons that contributed for adoption of such regime were: great division of the society, two entities and four currencies in circulation: Yugoslav Dinar, Croatian Kuna, Bosnian Dinar and German Mark.

However, Currency Board, as a model of managing the monetary policy, was not immediately adopted, because the Bosnia and Herzegovina was in a transition period from war to peacetime economy, from planned to market economy and from the status of the former Yugoslav Republic to an independent state with its monetary sovereignty, territorial integrity and political independence, which took time to happen (Kovačević, 2003). Therefore, the implementation occurred on 20th June 1997 under the assistance of International Monetary Fund (IMF), when the Central Bank of Bosnia and Herzegovina was established. In addition, the Convertible Mark (KM) was formed as a domestic currency, which was convertible on demand first into Deutsche Mark and after the adoption of Euro, into Euro (Gedeon, 2009). The fixed exchange rate by which KM was converted into Deutsche Mark and is now converted into Euro is set by the Law on the Central Bank of B&H. Article 32 of that Law states that the official exchange rate for the currency of Bosnia and Herzegovina is going to be one Convertible Mark per Deutsche Mark, or as of 1st January 2001, KM is pegged to the Euro at the exchange rate: one Convertible Mark for 0.511292 Euro, or one Euro for 1.955830 Convertible Marks (CBBH, 2002). The KM exchange rate against its anchor currency has not been altered since when it was first set by Law in 1997, and it is fixed nominal variable which influences inflationary expectations of the public (Centralna Banka Bosne i Herzegovine, 2015). The fixed exchange rate was important for the implementation of Currency Board, since its aim was to ensure economic stability in an extremely disordered postwar economic environment for Bosnia and Herzegovina, by providing solid nominal exchange rate of the domestic currency and by establishing the credibility of the Central Bank.

Main Elements of the Currency Board

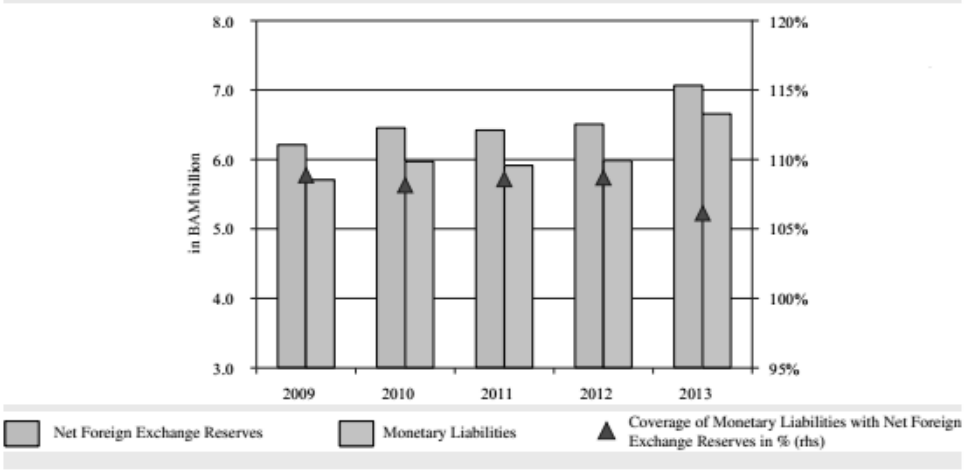
Currency Board in B&H is very transparent and is characterized by four main elements: automatism, convertibility of the domestic currency, political and financial stability and credibility.

Automatism refers to endogeneity of money supply and the self-regulation of monetary system. It is thought that domestic money supply is going to endogenously adjust to changes in the balance of payments (BoP), which represents imitation of self-regulatory mechanism of the gold standard.

Moreover, convertibility of the domestic currency means that the domestic currency is always ready to be exchanged for the anchor foreign currency at a fixed exchange rate, and also for other foreign currencies as well. In addition, KM is fully backed up

by foreign assets reserves. Therefore, any increase in the money supply can be solely provided by increasing reserve currency in the same amount. This means that the Central Bank needs to hold reserves, which are high-quality, interest-bearing securities denominated in reserve currency, of at least 100% as set by Law; however, the Bank usually holds 105-110% as to be protected in the case of interest-bearing securities losing value.

Figure 1. *Coverage of Monetary Liabilities with Net Foreign Exchange Reserves.*



Source: CBBH

Figure 1 represents the coverage of monetary liabilities with net foreign exchange reserves in the period from 2009 to 2013. During the period, the rule that net foreign exchange reserves, which include foreign currencies, gold or securities issued abroad and denominated in foreign currency less foreign liabilities of CBBH, need at all times to fully cover monetary liabilities in Convertible Marks, which include all bills and coins in circulation, the balances in commercial banks' reserve accounts and other deposits with the CBBH, has been respected. The coverage in 2013 was approximately 106%.

Since the Central Bank under CBR cannot create inflation, is protected from political pressures, makes interest rates to be lower and provides currency stability, the Currency Board Arrangement (CBA) establishes political and financial stability of the country. In the case of Bosnia and Herzegovina, it imports monetary policy from the European Central Bank, and interest rates as well as inflation closely track those in the anchor country.

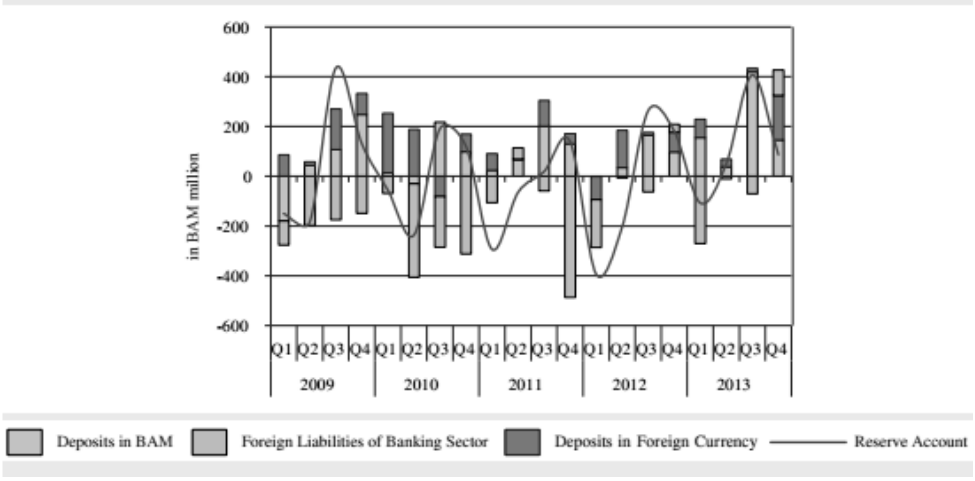
However, Currency Board, although an efficient measure for stabilizing the level of inflation in short-term, limits monetary authorities to finance budget deficit and their possibilities to give support to banks that have liquidity problems. Therefore, the Central Bank of B&H could not and still cannot act as "lender of last resort" and cannot use the exchange rate as means for recovery from economic shocks (Savić & Savić, 2011).

Monetary Policy Instruments of CBBH

As stated in the Law on the CBBH a under chapter IV on Monetary Functions and Operations of the Central Bank, The CBBH is not allowed to engage in any money market operations which involve securities of any type (Monetary Functions and Operations of the Central Bank, 1997). In addition, it takes over the monetary policy of the European Central Bank and acts as a passive agent in order to achieve its primary task of obtaining the stability of EURO-KM parity. However, the Central Bank of Bosnia and Herzegovina has one monetaryinstrument available to carry out economic policy goals and influence monetary movements, and that is the level of required reserves. The Governing Board of the Central Bank requires that banks hold the deposits with the Central Bank at minimum level of between ten and fifteen percent of their deposits and borrowed funds. Required reserves are calculated as average daily reserves over ten days period. Moreover, the amount of funds in the reserve account with the CBBH determines the amount of money in circulation.

The first time that CBBH used mandatory reserves as monetary policy instrument was in June 2003, when it decreased required reserve rate from 10% to 5%. However, in the next year the CBBH increased the rate up to 7.5% in September and to 10% in December and kept increasing it in order to eliminate high current account deficit as well as high credit growth (Kristić, 2007). Furthermore, since the effects of global financial crisis were also felt in B&H banking sector in 2008 and 2009, especially in terms of banking sector liquidity, the CBBH Governing Board decreased the required reserve rate from 18% to 14% in late 2008, and again it was reduced in 2009 to 10% for liabilities with a maturity over one year aiming to improve overall liquidity and economic activity by encouraging lending (CBBH, 2009). In 2010 the rates did not change; however, in 2011 the required reserve rate for maturities over one year was reduced to 7% as well as the required reserve rate for maturities up to one year, which then was set at 10%. From the base for calculating reserve requirement the value of government deposits for calculating development projects was excluded. Moreover, during 2011 significant loosening happened, which created conditions for monetary expansion (CBBH, 2011).

Figure 2. *Quarterly Changes in Bank Liabilities and Reserve Account with the CBBH.*



Source: CBBH

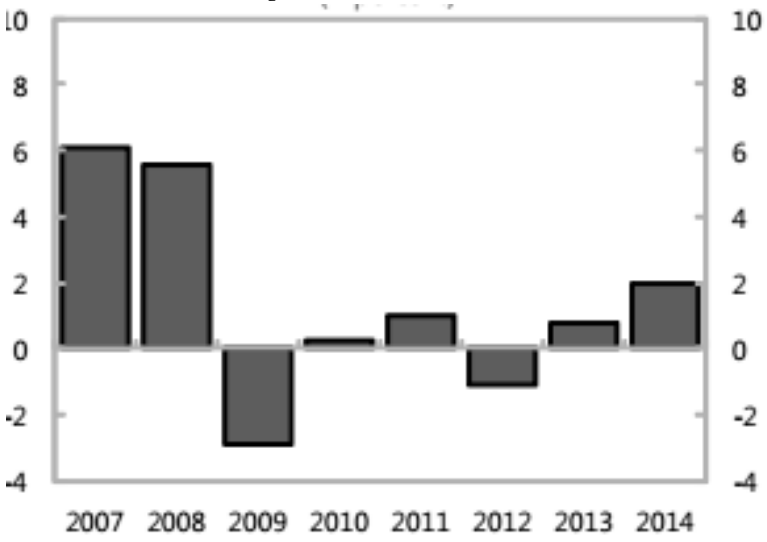
Figure 2 above represents the changes in reserve account, resident deposits and liabilities to non-resident over the 5 year period. It can be observed that deposits by residents have increased significantly as an aftermath of the growing public debt, whereas liabilities to non-resident have been reduced. In 2013, when B&H's economy experienced slight recovery from previous shocks, the base for calculating reserve requirement has been raised, and the surplus funds held with the CBBH that exceed the required reserve were also increasing (CBBH, 2013).

Selected Economic Indicators in B&H under the CBR

As previously mentioned, Currency Board Arrangement has roots in classical paradigm and it is assumed that domestic money supply adapts endogenously to changes in the balance of payments, meaning that maintenance of financial equilibrium and restoration of full employment and the balance of payments occurs through self-adjustment of national price level and the free flow of specie. It is thought that when consumers trade domestic for foreign currencies, the current account deficit will reduce the monetary base. This further causes an increase in the interest rates, a decline in the aggregate demand and a depreciation of the real exchange rate. The contraction in the money supply also reduces labor demand and the demand for other factors of production and that in turn reduces country's prices relative to other prices (Gedeon, 2010). This indicates that macroeconomic performance under CBR is not beneficial for the development of B&H.

Recent data suggests that economic activity in B&H modestly continued to increase; however the growth in 2013 was very low and it counted almost 1 percent, which can be observed in Figure 3. Because of the limitations of the CBR, and the Central Banks' inability to act as a "lender of last resort" and to influence the exchange rate, the growth in 2014 was projected by the IMF at around 2%, but based on the unofficial data it is even smaller than in 2013, namely 0.7% (International Monetary Fund, 2014).

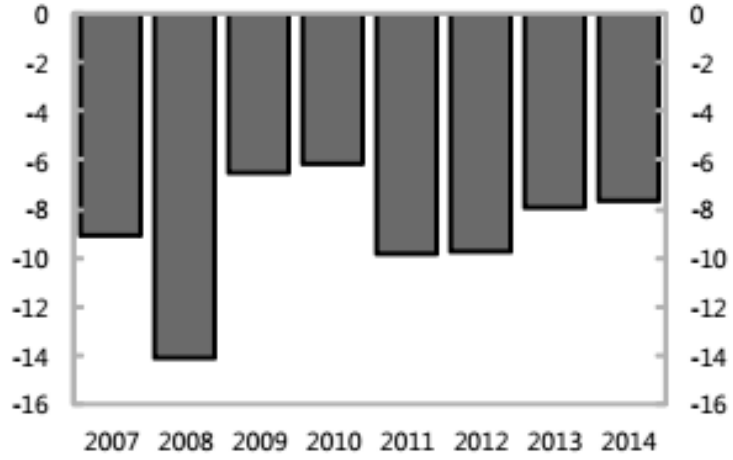
Figure 3: *Real GDP Growth (in percent).*



Source: IMF

Furthermore, the current account balance remains negative throughout the years, reflecting the fact that Bosnia and Herzegovina, because being unable to print money on its own and collect revenues through open market operations, is net borrower from the rest of the World, especially from the IMF. The negative current account balance can be seen in the figure below(International Monetary Fund, 2014).

Figure 4: *Current Account Balance (in percent of GDP).*



Source: IMF

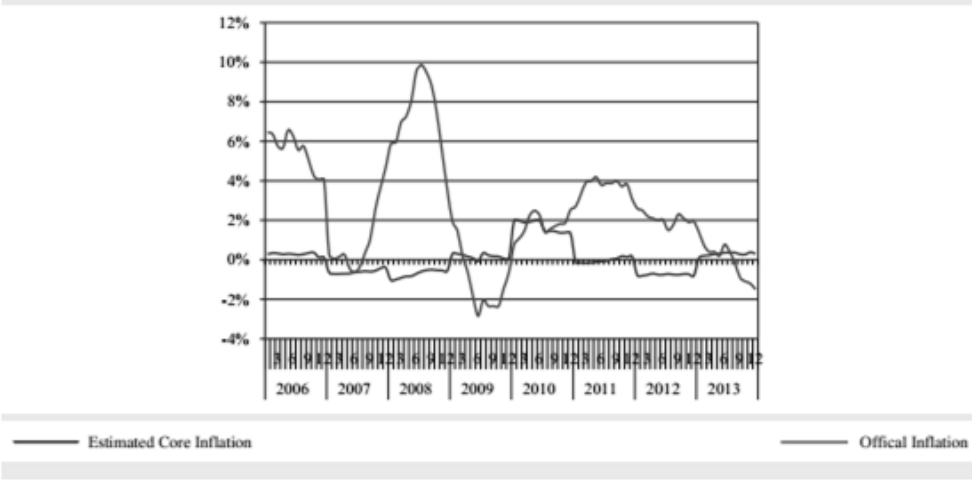
Figure 5 is a graphical representation of the official and estimated core inflation, measured by the consumer price index, in the period from 2006 to 2013. The data was extracted from CBBH reports, with the cooperation of Bosnian Agency for Statistics (BHAS). Fluctuations in the official inflation can be observed; however, from 2011 slowdown trend in inflation is present due to the deflationary pressures. In 2013, Bosnia and Herzegovina experienced deflation; although, because of the low purchasing power of consumers, domestic demand was very weak.

Monetary Policy as the Key Foundation for Economic Development in B&H

Although the Currency Board Regime provides financial as well as political stability to the country by prohibiting the interference of the politicians and by curbing the inflation, it is at the same time disadvantageous for Bosnia and Herzegovina. Its benefits and efficiency could be seen in the period since its introduction; however, after continuous implementation of this arrangement researchers concluded that it is extremely harmful for the country since it leads to overvaluation of the domestic currency and the current account deficit is double that of countries with floating exchange rates (Fabris & Rodić, 2013). In addition, it does not give the authority to the Central Bank over monetary policy instruments, except for the required reserves. The present deflation is beneficial neither for the suppliers nor for the consumers, since it reflects low purchasing power and weak domestic demand and it could even

lead to the deepening of the recession. Moreover, as previously seen, Bosnia and Herzegovina is having difficulties in achieving even modest growth rate. Although, there is widespread understanding that discretionary monetary policy is not the best sustainable option for countries in transition. Further, CBA mechanism cannot prevent crisis in the banking sector, so consequences of such event can have disastrous effects on a country's economy. Frederic Mishkin (2007) stated that:"The longer the currency board stays in existence, the greater the likelihood that there will occur a sufficiently large shock that leads to its collapse."

Figure 5: *Official and Estimated Core Inflation.*



Source: BHAS and CBBH

Having this in mind, in order for Bosnia and Herzegovina to achieve economic growth, and consequently economic development, it should develop exit strategy from the Currency Board Arrangement.

The CBA is considered as a gold-standard in modern monetary system. Furthermore, it served as a stabilization device. However, since it was supposed to remove immediate causes of financial instability, now its abandonment represents the foundation of economic development in B&H. Delphi method, combined with previously used method of analysis, were used to present how changing the current monetary policy regime of B&H could help it achieve better level of economic development.

B&H could theoretically exit from CBA by imposing a central bank regime with autonomous monetary policy and the ability to conduct open market operations or by joining European Monetary Union in order to achieve progress in its economic performance. One has to bear in mind that whatever monetary policy is chosen, in order to provide positive results, appropriate fiscal policy should as well be conducted (Avramov, 2000).

Abandoning Currency Board as a monetary policy of B&H could involve two or three stages, as was the case with Lithuania and Argentina and should be done in times when things are going well so that the smooth transition is feasible (Kozarić, 2007).

First, it is necessary that the monetary conditions for the monetary reform are created, and that can be done by intervening in the primary market for securities. This means that the possibility of transaction of securities between commercial banks should be introduced, as well as the possibility of issuing notes and Lombard loans which were not in use (Kozarić, 2007). In addition, money market would be transparent and the communication between its operations would be prompt. Improving inter-bank communication, designing money market instruments and infrastructure represent essential precondition for introducing open market operations. Open market operations are significant as they steer interest rates, signal monetary policy viewpoint and manage liquidity.

Second, the Central Bank needs to replace Currency Board system and it has to be sufficiently independent so to pursue long-run objectives such as price stability and monetary policy, and instruments other than required reserve have to be introduced. It is important that the Central Bank is independent and isolated from political pressures in order to efficiently achieve its goals and conduct its operations (Mishkin, 2007). This aspect of independency from shortterminism by politicians can be achieved by introducing member in the Board from ECB with veto rights in voting. Operational decision making would be left to domestic actors. Important advantages that B&H could have from independent central bank are the possibility of monetization of deficit and the CBBH having the function of "lender of last resort". If B&H's central bank gains the right to print money, then quantitative easing could be chosen. Given the assumption that CBBH could print and create money, it could buy bonds from financial institutions which would reduce the interest rates, further leading people, as well as businesses to borrow more which means they will spend more, create more jobs and thereby boost the economy.

With the independence of the Central Bank, which already is in force, B&H could choose a somewhat complex way of conducting monetary policy, and that is inflation targeting. In order to adopt inflation targeting, B&H should develop its financial markets and establish a reliable system of measuring inflation. Monetary instruments that would be used in conducting the monetary policy are short-term interest rates and control of the credit. This would further lead to changing fixed exchange rate with floating one, so that CBBH would be able to intervene in the market when it is necessary to ensure stability and avoid inflation (Kozarić, 2007). Floating exchange rate is more efficient than a peg and more important in determining the long-term value of the currency and for creation of the equilibrium in the international market. A gradual move from the almost orthodox CBR to a central banking system would return full monetary sovereignty to CBBH.

In addition, great importance in the development of financial markets should be devoted to repurchase agreements. By establishing this money market instrument the way to a broader market development would be alleviated. Monetary instruments available to CBBH must be efficient in controlling overall monetary trends and they must improve, or at least allow, the establishment of market-oriented financial system. These instruments need to be compatible with the financial system within which they will work (Savić & Savić, 2011).

For example, CBBH decides to target inflation at a certain low level in order to achieve sustainable economic growth. This could be done by a monetary policy decision which lowers interest rates and therefore also lowers the cost of borrowing. The result of such action would be higher investment activity as well as consumer spending. The expectation arising from lower interest rates that economic activity will strengthen, may cause banks to ease lending policies. Stocks become more attractive for purchase and they raise households' financial assets. This in turn boosts household and business spending. In addition, with lower interest rates, domestic currency depreciates, imports become more expensive so the domestic demand increases. Combining these factors lead to an increase in output, employment and consumer spending, helping country to achieve higher level of economic development.

On the other hand, if the abandonment of CBA is done in order to join the European Monetary Union, benefits are fewer than when imposing a central bank regime, yet still significant. By joining the monetary union, B&H would not have to give up independent monetary policy, since it already has given it up and it imports

one from the European Central Bank. However, there would be no more exchange rates between the members of the Union; therefore competition would be higher, prices would be lower and because of the greater price transparency international trade and investment would increase, causing B&H to move up on the latter of economic development. This would in turn lead to greater global status as well as greater political integration and influence in international affairs (Dolphin, 1995).

If Bosnia and Herzegovina abandons Currency Board Arrangement, it could gain control over its monetary policy, and by having all monetary instruments at disposal it could substantially achieve greater level of development.

Conclusion

There is no universal model of monetary policy that could bring benefits and economic development for all the countries of the world. Monetary policy's main goal is to achieve price stability, full employment and to balance the BoP.

In Bosnia and Herzegovina particularly, the monetary policy under the Currency Board Arrangement has helped the country to achieve price, financial and political stability; however it seems like in the current stable environment it does not help it develop. Therefore, the importance of this research lies in the fact that if the proposals were implemented, B&H could move forward and become more economically stable country. Current situation of the state of monetary policy seems much outdated especially since dominant paradigms across the board have changed targeting economic development. Therefore, the key foundation for B&H's development might be the abandonment of the CBA and moving toward central bank regime with the authority to conduct open market operations.It is very important for B&H to move away from the currently implemented monetary policy regime, since it only holds the country back from progressing. In that sense, this paper can serve as a useful guideline for policy makers when discussing and forecasting which path and which type of monetary policy to pursue to yield higher economic prospect.

The process of transformation towards effective use of open market instruments in policy implementation doesn't happen overnight and usually involves two or three stages of market development. The transition to indirect instruments of monetary policy causes the operational activities of the central bank and the treasury to become more connected than before.

Creators of the monetary policy need to closely follow the level of development of the country's financial system and to, in a timely manner, adjust their monetary activities to those changes.

Though it has to be emphasized that transformation of monetary authority into one that has actual instruments at its disposal, should by no means happen at the expense of established independence of monetary pillar of the economy.

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The Monetisation of Assets through Concession and Applicability in the Sector of Energy in Bosnia and Herzegovina

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Abstract: *Financial effects of monetisation through concession in the sector of energy in Bosnia and Herzegovina (B&H) may well increase the level of domestic investments, production, exports, employment and general economic growth, without additional higher borrowings and loss of ownership in these strategically important industries. These new financial opportunities are necessary for faster economic development of the country, especially in the transitional period, as this development process is a great challenge in modern world economy. It requires significant commitment and coordinated efforts of the public and private sector.*

The case study of Terminal Kakanj Power Plant (KPP) presented in this paper show that it is possible to implement monetization of assets through concession in the energy sector in B&H.

The empirical results provide evidence of positive correlations between monetisation through concession process and economic development in B&H or other transition and development countries.

Keywords: *Monetization, Concession, Development, Financial Effects, Energy Sector*

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Introduction

Due to the lack of investment funds the economies of many countries are often in unfavorable and seemingly hopeless situations, where incomes are insufficient for necessary new investment, which slows the growth of capital and production and finally results in slowing of the income growth. Such economic situation is very difficult and depressing, and the way out of this situation is not easy and requires adequate knowledge and hard work.

One of the possible way-outs is through new investments, which can change and direct a vicious circle of this situation towards the revival and development of the economy and overall society. The question is how to acquire new investments, i.e. how to ensure the necessary funds for this purpose?

In this regard, the governments have an important task, especially in providing funds, which is not easy.

Public infrastructure in many countries, because of their high value, may be the basis for new investments, because this potential can be exploited so that the existing resources and assets available in the network industries can provide fresh money. This can be achieved by monetization of assets through concessions. The government's funding source of increased importance is the "monetization" or insuring the cash flow from existing public assets. Revenues made by the monetization may be used for: new infrastructure funds directly, or for other purposes. On the other hand, this process is a good opportunity for the government to gain the capacity of new technologies, increase production and exports, achieve stability in the energy system, and to avoid possible risks of worn out and technologically obsolete capacities or losses, etc. A new concession management structures, in partnership with the public sector, with an agreed concession fee, receive infrastructure to manage, which in long-term involves: investment, exploitation, maintenance, sale of services and all other that is related to the specific activity and agreement.

The process of monetization has to take in account large interests of stakeholders, this is especially true for the public sector, concessionaires, financial institutions and service users. Their interests are different, but they are strongly connected to each other. The implemented project which presented in this paper (page 4.) and experiences of countries show different interests of stakeholders and main reason for

monetization through concessions in network industries. These practical examples of projects and results of research presented in book "Achievement in Finance of Infrastructure, PFI/PPP", Izet Bajrambasic, 2004, (chapter: "Participants and the interest of the participants in the PPP Projects") give very clear explanation of stakeholders different interests.

The interests of the public sector are: new financial resources, continuous provision of public services, faster development of infrastructure and economy, allocation of risks, safety in the delivery of public services, quality of services, market competition and others.

Interests of concessionaires are: long-term investments, an increase in the volume of business, applying experience and knowledge in the field of work, protection of property and copyright, freedom of financial transfers and alike.

The interests of financial institutions are: long-term borrowings, safety in money return (guarantees for the return of money) and to ensure the priorities of payments compared to other costs in the operational work of the concessionaire.

The interests of service users are: to have developed network industry (infrastructure) and services, to have adequate service quality and price, to have the option of investing in these industries and alike.

Interests of all stakeholders must be met, achieved and to be sustainable for a longer period of time, because it is the greatest guarantee for the success of the project.

This is often politically more acceptable option than the full privatization, since the government can exercise control of public property operators, and at the end of a long-term concession contract assets are returned to public ownership. This shows that there are political, economic and financial reasons for the monetization of assets through concessions, and therefore it is important to research and study this financial instrument in B&H.

According to result of the case study presented in this paper, it is clear that there are great opportunities for the application of this model in the energy sector in B&H. The study was conducted on the most complex production facility of KPP, Public Enterprise Elektroprivreda (PEEP). It is possible to apply monetization of public assets through concessions, where the government would remain the owner and the

concessionaire would operatively manage an independent enterprise KPP. Such an approach will greatly enhance and accelerate investment in the energy sector, while at the same time create new opportunities for the implementation of other planned investments, such as revitalization of the relevant coal mines.

Literature review and experience of other countries

One of the important segments of economic development is investing in infrastructure. Infrastructure of a country is understood as the fundamental service foundation of the economy, society and overall development. It is well known that, for the development of the economy, the adequate services are necessary, including transport, electric power, telecommunications, water and waste water etc.

Larger investment in this sector produces higher market demand, and it implies that there is an increase in production, which enhances employment and gross domestic product. These economic relations and results are particularly significant for developing and transition countries, which in this process see a good opportunity for economic and social progress.

Large number of authors in economic literature confirms the need to invest for faster economic growth, and great contribution to that is provided by international trade and free movement of capital.

The capital investments depend on many factors including the accumulation and savings. The amount of capital determines the volume of domestic product and domestic product determines the amount of savings and investment. On this way domestic product determines the amount of accumulated capital (Blanchard, 2005). This cycle is very important for each economy and expected capital increase. Public infrastructure investments in network industries have large investment share and capital increase. It was pointed out that the investments are planned according to the assessment of expected cost and benefit, and that relationship, including amortization which significantly affects the level of investment.

Assessing of investment, interest and risks are important factors that are taken into account, because refund depends on that. It is especially important to examine this in public investment, due to the mostly high investment volume and long-term financial burden, which is not easy for public sector. Public investments are specific and require special analysis and calculation of costs and benefits, but not for an

individual or a small group, but for all potential users and entire society. The realization of these efforts is not simple because financial resources for these investments determine plans and possibilities. For this analysis, the state employs large teams in order to prove the need and cost effectiveness of investment (Mankiw, 2004). Government support is mostly expected in terms of new investments and ensuring the funding. The main problems arise when the accumulation is not sufficient, and credit debts are not possible or are at risk. This can be partially avoided, because it is possible to obtain funding in other ways, beside from own accumulation and no debt.

One of these ways is partnership to private sector with different possibilities to invest. Financing and development of infrastructure on the basis of the Private Finance Initiative (PFI) and the Public Private Partnership (PPP) means introducing the private sector into financing and management of public services and physical infrastructure aimed to increase financial possibilities, improve the quality of public sector, develop infrastructure and introduce the business principle into the public sector. The partnership of the public and private sector in the PFI/PPP systems is, with the common interest, directed towards long-term contracts for sustainability of the relationship and the infrastructure system (Bajrambasic, 2004).

Monetization of assets through concession is one of the PPP models, which is very relevant in recent years. "An increasingly important source of government financing is from the monetization, or securitization of cash from existing public assets. This is often a more politically acceptable option than outright privatization, since the government can exercise a degree of control over the asset operator, and at the end of the long-term contract the assets will revert back into public ownership. The proceeds from such transaction can be used to fund new infrastructure directly, or for other purposes" (Colchester, 2005).

This is why the public sector increasingly desires private investment in public assets. A finance market is open and private investments have no restrictions and all investment forms are available: bonds, option, futures, derivatives, real estate and even fine artwork ... (Armstrong III, 2004). Relate to this large possibilities of private investment, the public sector may have to prepare an attractive project if they would like to have private investment in public infrastructure.

It is not easy, but practice has shown that many countries need partnerships to private sectors and monetization of assets through concession. There are many cases of this monetization model around the world.

The experiences of other countries in terms of monetization through concessions in network industries are positive, and reasons and interests for these processes are various.

Examples of projects in the USA and South East Europe region are listed below.

- The first concession in the USA for already constructed infrastructure facility was awarded in 2005 for the Chicago Skyway Bridge, which was built in 1958. The bridge is 12 km long, and the annual number of vehicles is around 19 mils. The annual income from the collection is approximately $ 45 mils. The bridge was operated (operations and maintenance) by the City of Chicago Department of Streets and Sanitation for more than 50 years. The concession was awarded to the Sky Concession Company, LLC for 99 years, and the company paid $ 1.83 mil. In this case the government justified concession by the fact that they need funding for new infrastructure projects in Chicago, and that this was the easiest way to get fresh money. (http://www.chicagoskyway.org/)

- Indiana is the first US state, which monetized the road Indiana Toll Road by collection through concession for a period of 75 years, with the offered value of $ 3.85 bn. The concession was awarded to Spanish investor Macquarie Infrastructure Group and Cintra. Analyst Richard Beales (Financial Times, 2006) claims that this example could open the door for other financial constrained countries to invite private investors to roads and bridges for resources/assets that are traditionally owned and operated by state and local governments.

  This is monetization through concessions of previously constructed motorways. The state of Indiana has constructed this motorway much earlier with its own funds and loans and it has already been used for a fee. The reason for such move by the government was financial problems and high maintenance costs, as a result of the infrastructure management by the state.(http://www.governing.com/topics/mgmt/indiana-toll-road-model-privatization.html)

- Road Alligator Alley was constructed in 1964 with two lanes, and enhanced with two more lanes, which financed from the bonds issued. The owner and operator was a state-owned company Florida DOT. Due to the high costs and financial needs, it was decided that the road will be given under concession.

  In this concession, revenue collection did not follow the growth of operating costs (management and maintenance) of the road, and transformation was done through the concessions, as in the case of Indiana Pay Toll. (http://inthepublicinterest.org/case/proposed-privatization-alligator-alley)

- The Government of Macedonia in 2008 awarded concession to the Turkish company TepeAkfen Ventures (TAV) for two airports in Macedonia: Alexander the Great - Skopje and St. Paul -Ohrid. The concession period is over 20 years, and mandatory total investment is Euro 200 mil and the annual concession fee to the Government of Macedonia is Euro 30 to 40 mil.

  The government made this decision due to the need of large investments and large debts for airports. All these investments and debts were transferred to the concessionaire by the transformation.(http://www.mtc.gov.mk)

- The Government of Montenegro in 2008 decided that the Port of Bar is not to be privatized but to carry out the restructuring, and that the port should be given under concession. After restructuring, concession agreements to 30 years were signed, at an annual fixed concession fee in the amount of Euro 27,500 and a variable fee of 1.5% of the annual income of the concessionaire. The essential decision of the Government is that the infrastructure remains in state ownership as a national interest, and that it can be given under concession. The Government's stake of the operating companies can be sold as well, because it is not of the national interest. Therefore, the Government of Montenegro sold majority stake in operating companies related to the port of Bar. This project combines the privatization in the part of the operational work and monetization via concessions in the part of infrastructure. (http://www.minsaob.gov.me)

- The Republic of Croatia Government in 2011 awarded concession for Zagreb Airport to the French consortium Zagreb Airport International Company (AIC) for 30 years to construct new passenger terminal and for management of existing and newly constructed terminal and associated infrastructure. Within three years' period the ZAIC should construct a terminal for the capacity of five

million passengers per year, the total capital investment in the first phase amount to Euro 236 mil., with an additional Euro 88 mil for regular maintenance. (http://www.mmpi.hr)
The ratio of ownership is not changed: 55% of the state, 35% of the city of Zagreb, 5% of Velika Gorica and 5% of Zagreb County.

The topic of this paper is very specific and it request research methodology which covers comprehensive area and specific research parts. Research methodology of this paper is descriptive in next article.

Methodology

The overall aim of this study was to research applicability for the monetization of assets through concession in the energy sector in Bosnia and Herzegovina. In particular, the focus of this study is to solve the problem of finance and risk in investing in public infrastructure, and exploring the possibility to establish a new financial resource based on the existing public assets.

Research methodology of this paper covers the process of the whole research activity and essentially is the core component of the research paper itself. It includes the following parts: descriptive microeconomic and investment status of the countries, generally; investment and concession approach in theory and practice; the primary and secondary data capture methods; case study of the monetization of KPP including mathematic operation (BCR, NPV, IRR, Payback method) and graphic presentation; discussion and results and conclusion with recommendations. The contents of this research process were used in order to determine the basis and assumptions for this paper and achieve the overall aim of the study.

In order to provide the appropriate data, case study and analysis to evidence an acceptable solution for the current finance problem, the most appropriate methods for this paper is the data collection method and analysis including case study method.

There are four main action areas recommended to cover all activities: data capture, case study, data analysis and result.

Data captured from different resources: internal and external. Internal data used for this paper are from: books, laws, studies, magazines, etc. (specified on the end of this

paper). External data used are from: business plan, annual business report, technical and finance studies, investment plan and the internet, etc. (specified on the end of this paper).

Case study prepared base on technical and finance studies, published information, experience of other countries and author's knowledge and experience. Data analysis is done as narrative description and through result of the case study. The case study presented main results to achieve the overall aim of the study.

Macroeconomic aspects and assumptions of the study have been described only partially to the extent necessary, and which is linked to the developing countries and transition economies. This aspect is not presented comprehensively, because it is a specific topic of the paper.

The information captured on needs and financial status of these countries clearly indicates the urgency for investing, but also a great debt and significant difficulties in repaying debts. Additionally, these countries need new investment and fresh money for economic development. An analytical approach was used for the main part of the study, and an example of possible way to address these issues in B&H and other countries in the region was presented.

Strategic plans for the development of the energy sector in B&H have not been agreed or operationally synchronized. However, it is known that for planned investment the accumulation of enterprises is nowhere near enough, and other forms of investing and plan implementation are considered. A key unresolved question is: which investment models should be applied and which funding sources should be used to develop production capacity.

Investment programs and technical study, which are still valid, were used as the basis for new investment model, and they were prepared for the traditional method of implementation based on finance borrowing. Predicted method of implementation was faced with serious financial difficulties, and the project stalled. Besides traditional modes of investment, it is necessary to consider other known forms as well. Technical and financial data from the mentioned documents have been used to model the monetization through concessions as a basis for investment, business plans and calculation in the concession period of 30 years.

The presented case study is related to monetization through concession of KPP, which is belonging to the Public Enterprise Elektroprivreda B&H (PEEP).

Previous business analysis and planned investments of KPP are the basis for assessing the operations in the concession period, which is analytically, with investment dynamics, presented in the following four separately business periods: 2015-2019; 2020-2026; 2027-2032 and 2033-2045. These analytical business periods are operating in continuity, varying according to the level and type of investment, and different business results. This analytical approach enables to calculate the profit and net profit, with included cost of concession fees, as well as net present value, which is essential for the analysis of concession relations between government and the concessionaire, and the evaluation of overall management transformation of KPP.

Case study: Monetization of KPP

KPP capacities developed in stages, based on the large deposits of coal in this area, from the initial 32 MW in1947 to 578 MW of total installed capacity, concluding with block 7 from 1988. In addition to production and selling of electricity KPP produces and sells thermal energy, slag and ash.

Financial operations of KPP is not individually stated and publicly disclosed, but it is a part of overall PEEP business, which is a certain limitation for analysis. However, there is more data on the operations, such as: production volume, costs and resources of business, so it is possible to calculate the basic business elements and indicators.

New investments in KPP are given in a separate document Investment Program 2010 (Technical Study). Current operations and planned investments provide the necessary data for evaluation of possibilities of KPP monetization through concession, and therefore in the continuation of the text separate analysis of these two important segments are listed.

Business data of KPP

Known elements of KPP business for 2010 are: total costs (207.878 mil KM[i]), total assets (964.630 mil KM), number of employees (663), total production (1,831 GWh) and investments (56.041milKM). Other elements of business are not known, but elements of PEEP business operations are known.

Detailed and systemized PEEP business results from 2009 and 2010 are suitable for calculation of the missing elements of KPP business for 2010. KPP participation in electricity production in total production of PEEP can serve as a key to calculate the total revenue of KPP. The volume of PEEP production in 2009 is 6926.50 GWh, out of which KPP produced 1907.97 GWh. In 2010 PEEP production volume was 7181.40 GWh, out of which KPP produced 1831.00 GWh. Participation of KPP in total production of PEEP in 2009 is 27.55 %, and in 2010 amounts 25.50 %. Basic calculated elements of KPP business statement, as "independent company" for 2010 would be as shown in the following Table 1.

Table 1: *Basic calculated elements of KPP business statement*

Description	Amount (mil KM)
Total revenue	235.000
Total costs	210.590
Profit before tax	24.409
Tax 10%	2.440
Netprofit	21.968
Number of employees	663

Source: Authors' own work and Anual Business Statement of the KPP 2009

Analysis of recent investments in KPP

Significant investments in existing capacity in PEEP are completed in the previous period. PEEP has invested 1.056 million KM in the development by 2010, and planned investment for the period 2011 to 2015 is 970 million KM, and for the period 2016 to 2020.811 million KM.

The first investments according to the overall KPP plan are related to the construction of Block 8, for which the preliminary Design and Environmental Study have been completed. Block 8 (300 MW) is the first block in the gradual transition to the new technology. Continuity of replacing the existing installation is planned for a longer period, so that full energy stability is achieved in 2030, with the planned installation of Block 9 (300 MW).

The completion of construction and commissioning of the regular operation of new block 8 in power plant Kakanj is planned (the traditional construction approach) for 2018 (Investment Program).

The study envisages total investment and required work resources as well as operating costs.

The total investment in fixed assets (Block 8) at constant prices amounts to 945.267 mil KM.

Table 2: *Business and Investment Forecast in Concession Period*

Description	Business period (mil. KM)				Total
	2015.-2019.	2020.-2026.	2027.-2032.	2033.-2045.	
Contracted concession fee	-	140.000	130.000	390.000	660.000
Total Profit	136.445	163.688	176.666	645.671	1.122.470
Tax 10%	13.645	16.366	17.666	64.571	112.248
Total Netprofit	122.800	147.322	159.000	581.100	1,010.222
Total discounted value	97.645	74.573	49.149	88.405	309.772
Operative capacity(MW)	450	340+300	600	600	_
Operative capacity (block)	5,6 and 7	6 ,7 and 8	8 and 9	8 and 9	_

Source: Authors' own work

In the first year of work required current assets amounts 20.830 mil KM. The cost of financing the investment amounts 59.948 mil KM, and total investment at constant prices is 1,035.046 mil KM. Total investment at current prices amounts to 1,106.338 mil KM. Block 9 has same price amounts (investment calculation).

It is important to note the need for rehabilitation and modernization of three aforementioned mines that production and future of KPP depends on. These mines are the basis of development and operation of KPP, and it is therefore necessary to

simultaneously invest in the mines. Investment indicators are satisfactory and the Technical Study is the basic document for making a decision on the future status and operation of KPP. Also, this document is a solid source of data for analysis of monetization possibilities through concessions.

Given the large number of tables and calculations of separately periods of business and investments, below is the table presenting in the aggregate profit and net profit, with concession fees according to the calculation and capacity of KPP, for aforementioned periods of business.

Discussion and Results

The table shows that the aggregate net profit is 1,010.222 mil KM, and the discounted value of the net profit is 309.772 mil KM, and that the aggregate contracted installment fee is 660 mil KM, while the immediate fee of 200 mil KM is not shown in the table. In the part of compulsory investment for the concessionaire it is important to note that the last two periods of operation is shown with capacities of new technologies and that it is possible to achieve the goal of replacing old plants according to the planned schedule.

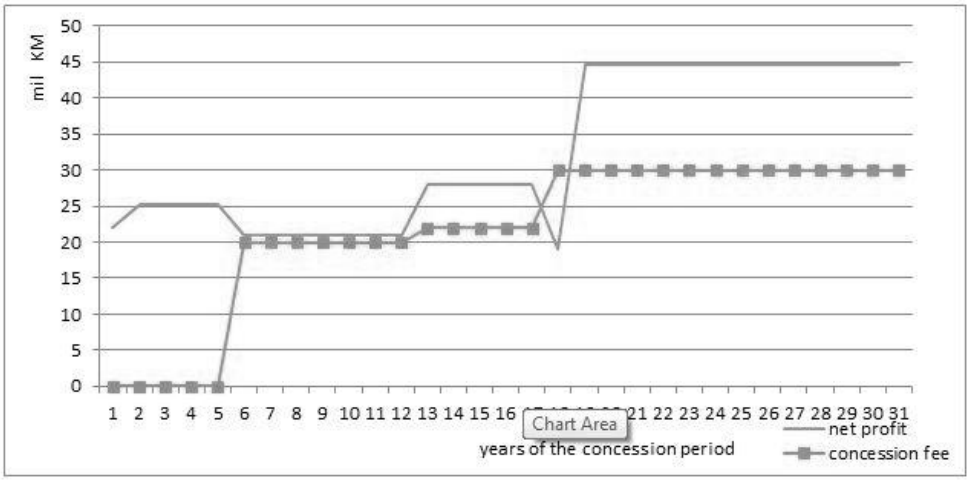
Net present value according to calculation and immediate concession fee, is positive and amounts 109.772 mil KM (309.772-200.000), which is an indicator of the success and feasibility of monetization of assets through concession in KPP. The calculation of discounted value is per discount rate of 8 %. It is important to note that the costs include: operating, maintenance, costs for environmental protection measures, financing costs, a 10% tax (profit/net profit), and costs of concession fees.

We have taken into consideration the conditions of IFI's,[ii] where the grace period is five years, the loan repayment period is 20 years and the interest rate up to 4.5 %, and it would be a financial support to the concessionaire.

Operating of KPP, according to the Technical Study, shows a high amortization, which exceeds the amount of the (credit) annuity, which is important for the financial cash flow in the company. Further, the aggregate business results according to the previous table show significant net profit, as well as the discounted value. It is good financial framework for the concessionaire, which provides good possibilities for company reform, investing and making profit. The ratio of net profit and

contracted installment concession fees from Table 2 is important, so it is presented in the following Figure1.

Figure 1: *The Ratio of Net Profit and Concession Fees*



Source: Authors' own work

Developments in these two values in concession period (30 years) show that the fees are stable at certain periods, and that the net profit is stabilized in the last decade.

Presented monetization of KPP shows that there are good assumptions for this process and that the application is possible and acceptable. The analysis shows financial and other benefits for the government and the concessionaire and achievement of a common goal, and that would be the production of electricity.

Besides the benefits, each partner in this process would have to accept important responsibilities in order to make the project successful. For example, the government must take on the responsibility of modernization of mines, which are relevant for KPP and the obligation to secure supplies of coal. In this regard, the government would use contracted immediate concession fee to modernize the primary mines Kakanj, Breza and Zenica. On the other hand, the concessionaire would accept an obligation to deliver electrical energy e.g. priority for B&H. Of course, partners in this process agree on all details and sign the concession contract on monetization of KPP.

Conclusion

All defined activities of the research methodology used for this paper have been done and a final result is very clear and visible. The research results and experience of other countries shows that it is possible to monetize an existing, constructed infrastructure asset, i.e. certain capacities as an example of KPP. The research results with emphasis on KPP indicate that the energy infrastructure in B&H has great value and is mainly owned by the state and that the monetization of assets through concessions is possible. The presented case study showed that interests of all stakeholders had been met and had been achieved. It also showed that was sustainable for concession period of 30 years, because it was guaranteed by the financial success of the project.

Resources and needs of B&H are great in all segments of network industries, which definitely should be used, bearing in mind that, generally, these are complex strategic industries that require special attention and sustainability of the system. It is the reason why the monetization process is much better option than privatization, because it is based on changing the management structure, but not changing of ownership as well, which remains with state (public).

Monetization of assets through concessions in the strategic industries sector is possible in the economies of countries, if there are clear benefits and if such model of monetization is acceptable, with regard to the legal and business environment. In these national economies that requires significant commitment and coordinated efforts of public and private sector.

Generally, exploring new financial opportunities is necessary for faster economic development of the country, especially in the transitional period, as this development process is a great challenge in the modern world economy.

This monetization process is common job for the public and private sector to have a mutual interest and risks in realization of long-term contract. There are many different risks for both partners. The basic risks in this process are: political, legal, commercial, operational and maintenance risks, then income and financial risks. All the risks have to be included in the risk analysis. The risks are disadvantage of this monetization process, because each of them can make implementation problem. High quality risk management and contracting are requested for successful monetization process.

Recommendation: Taking into account results of this study and risks in this process it is necessary to continue exploring, preparation and implementation projects of the monetization of public assets through concessions in B&H.

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file:///C:/Users/izet.bajrambasic/Downloads/13845_GSY_BGP_Privatization%20and%20PPP%20Review_June%202007.pdf

[i] 1,9558 Convertible Mark (KM, ISO CODE: BAM)= 1 EUR (Currency Exchange of the Central Bank of B&H, No.092)

[ii] International Finance Institution (WB, EIB, EBRD)

Do Size and Origin Matter? Evidence from the Banking Market of Bosnia and Herzegovina

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Abstract: *This paper supports research activities related to the performances of banks in Bosnia and Herzegovina. Observing diversified, decentralized and inhomogeneous banking market of Bosnia and Herzegovina arises questions such as whether large banks are better than small banks or whether foreign owned banks are better than locally owned banks. The main purpose of this study is to compare banks of different size and ownership origin in Bosnia and Herzegovina. The dataset includes 162 bank-years data and 24 financial ratios. The results show that small banks in Bosnia and Herzegovina have significantly higher net interest margin and are better capitalized than large banks. Large banks, however earn almost double interest revenue per employee compared to small banks. Foreign banks are significantly larger compared to local banks. It is also possible to discriminate between banks of different size and origin based on their financial performance.*

Keywords: *Bosnia and Herzegovina, banking, profitability, efficiency, size and origin*

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Literature Review

Banking market has been research area of interest in the previous period. Banks and their behaviour are analysed frequently in order to investigate patterns and trends that determine their profitability, efficiency and other financial indicators.

The latest financial crisis has significantly affected the banking sector in Bosnia and Herzegovina causing stagnation within the sector, increase of risk costs and consecutively decrease of profitability. Despite of these global financial changes, the results within the sector vary to a great extent from bank to bank. The banking market of Bosnia and Herzegovina is in majority foreign private ownership and is characterized by domination of large foreign banks. It is also highly decentralized as two separate banking markets exist in each of the two constitutional entities, Federation of Bosnia and Herzegovina and Republika Srpska. Banking market of Bosnia and Herzegovina is fairly unexplored area, only an insignificant number of research has been conducted using data from Bosnia and Herzegovina. This research includes prediction credit default in Federation of Bosnia and Herzegovina (Memić and Rovčanin, 2012) and assessing credit default on the banking market of Bosnia and Herzegovina using several statistical methods (Memić, 2015).

Observing such diversified, decentralized and inhomogeneous banking market of Bosnia and Herzegovina arises many unanswered questions: are large banks better than small banks and are foreign owned banks better than locally owned banks? Answering such questions may indicate whether the decisions to transfer most of the Bosnian banking market from the local to foreign ownership, was a quality one. Furthermore, it may indicate whether small or large banks exhibit better performance.

The main purpose of this study is to compare and discriminate banks of different size and ownership origin in Bosnia and Herzegovina or in other words, analyse different financial ratios of banks in Bosnia and Herzegovina controlling for bank size and ownership origin.

To our knowledge no major research has been conducted and published on the banking market of Bosnia and Herzegovina apart from the study by Memić and Škaljić-Memić (2013) that assessed the efficiency scores for each bank which served as a basis for further comparisons between the banks in the period between 2008 and 2010. In this research banks were also compared based on their size and location. The results of this research have shown that individual bank efficiency varies

throughout the observed period and that not all of the banks were part of the negative banking sector trend induced by the crisis. The study showed no significant difference between the performances of banks in different Bosnia and Herzegovina entities, nor between smaller and larger banks. The main reasons for lack of relevant research on the banking market of Bosnia and Herzegovina may lay in the lack of data availability data, insignificant market size in global banking proportions and lack of research funds.

Globally, many different studies aimed at assessing banking market from the size, ownership, market structure, lending behaviour have been conducted. One of the studies by Micco and Panizza (2004) examines whether bank ownership is correlated with bank lending behaviour over the business cycle using multi-country data. The study has shown that state-owned banks play a useful credit-smoothing role as their lending is less responsive to macroeconomic shocks than the lending of private banks.

Uchida, Udell, and Watanabe (2007) studied banking sector in a way to determine whether small banks have a comparative advantage in processing soft information and delivering relationship lending on a unique Japanese data set. The results of this study suggest that large banks usually borrow to larger firms, as well as that large banks do not necessarily have a comparative advantage in extending transactions-based lending. The study has also shown that small banks tend to have stronger relationships with their borrowers than large banks do.

Another study tests for bank loan supply shifts by segregating banks according to asset size and capital leverage ratio. The banks in this study were divided into six asset size groups and found that loans of small undercapitalized banks are the most responsive to monetary policy (Kishan and Opiella, 2000).

Berger & Black (2010) analysed the differences between banks of different sizes by testing the existing paradigm that large banks tend to specialize in lending to relatively large, businesses using hard information, while small banks tend to specialize in lending to smaller, less transparent businesses making the lending decisions mainly on the soft information. The authors found that contrary the existing paradigm, large banks do not have equal advantages in hard lending. Their results also suggest that small banks do have comparative advantage in relationship lending but for lending to large businesses.

De Haan and Poghosyan (2011) examined the earnings differences between banks of different size and different degree of concentration in the banking sector, on the quarterly data for non-investment banks in the United States. Their results suggest negative impact of bank size on bank earnings volatility decreases with market concentration. They also found that larger banks located in concentrated markets tend to have higher volatility during financial crisis.

Cost and profit functions were used to analyse cross-bank differences over time, which are related to bank size, ownership structure and other relevant variables for Chilean banking industry by Fuentes and Vergara (2003). The study shows that banks considered as open corporations show higher level of efficiency compared to international banks. The authors also report that international banks in Chile tend to trade financial instruments rather than acting as traditional loan-deposit institutions, and that banks with higher levels of property concentrations show higher efficiency levels.

Chen and Liao (2009) used bank data from banking sectors from 70 countries from 1992 to 2006, to identify cross-country determinants of bank profitability in domestic versus foreign banks controlling for bank characteristics, macroeconomics environment, the quality of institution, country risk, banking regulation, and supervision across countries. Their empirical results reveal that foreign banks are more profitable than domestic banks.

Methodology

This study aimed at observing banks operating on the banking market of Bosnia and Herzegovina. Banks included in the dataset are divided into two groups, dependent on their respective size, as total assets are used as a proxy for the banks' size, according to the following methodology:

$$Bank\ size = \begin{cases} Total\ assets < BAM\ 1\ mio => small\ bank \\ Total\ assets \geq BAM\ 1\ mio => large\ bank \end{cases} \quad (1)$$

In other words, one bank may be observed as a small bank in one period if it does not satisfy the condition to be regarded as the large bank, and observed as s large bank in some other period in which it satisfied the condition, and vice versa.

Banks included in the dataset are also divided into two groups, dependent on their ownership origin, as local and foreign, according to the following methodology:

$$Bank\ ownership = \begin{cases} Majority\ local => local\ bank \\ Majority\ foreign => foreign\ bank \end{cases} \quad (2)$$

In other words, one bank is observed as a locally owned bank if it has majority of its shares owned by local personal of legal entities, while the other is observed as a foreign owned bank if it has majority of its shares owned by non-Bosnia and Herzegovinian personal of legal entities.

For each of the observed periods, four groups of bank-specific financial ratios were calculated. The four used groups of financial ratios are: profitability, efficiency, capital structure and size ratios. Size ratios are only used in the part of the research related to the equity origin of banks. Table 5 in appendix gives an overview of the used financial ratios. The study uses total of 24 different financial ratios with the following structure: 8 profitability ratios, 12 efficiency ratios, 2 capital structure ratios and two size ratios.

The study uses a *two-sample t-test* to test two main hypotheses. The first hypothesis states that there is no difference between chosen financial ratios of small and large banks operating in Bosnia and Herzegovina. Based on this assumption a null hypothesis $H1_0$ is set as follows:

$$H1_0: mean\ X_i(small) = mean\ X_i(large) \quad (3)$$

Whereas, X_i represents the financial ratios. On the basis of the null hypothesis, an alternative hypothesis $H1_a$ is set as:

$$H1_a: mean\ X_i(small) \neq mean\ X_i(large) \quad (4)$$

The second hypothesis states that there is no difference between chosen financial ratios of locally owned and foreign owned banks operating in Bosnia and Herzegovina. Based on this assumption a null hypothesis $H2_0$ is set as follows:

$$H2_0: mean\ X_i(local) = mean\ X_i(foreign) \quad (5)$$

Whereas, X_i represents the financial ratios. On the basis of the null hypothesis, an alternative hypothesis $H2_a$ is set as:

$$H2_a: mean\ X_i(local) \neq mean\ X_i(foreign) \tag{6}$$

Once the ANOVA results were obtained, selected profitability, efficiency, capital structure ratios were used to conduct multiple discriminant analysis (MDA) in order to test the possibility of discriminating between banks of different size and ownership origin based on selected financial ratios. Discriminant analysis is a statistical technique used in many different fields and it includes a discriminant variety and represents a linear combination of two or more independent variables that discriminate between the objects in the a priori defined groups Joseph F. Hair and Rolph E. Anderson, *Multivariate Data Analysis* (Prentice Hall, 2010).. Discriminant analysis is mainly used for solving classification and prediction problems. The dependent variable used in discriminant analysis is dichotomous. The discriminant function has the following form:

$$Z_{jk} = \alpha + w_1 x_{1k} + w_2 x_{2k} + \cdots + w_n x_{nk} \tag{7}$$

where:
$\boldsymbol{Z_{jk}}$ *= Discriminant* $\boldsymbol{Z}$ *score of the discriminant function,*
$\boldsymbol{\alpha}$ *= Intercept,*
$\boldsymbol{w_i}$ *= Discriminant weight for independent variable* $\boldsymbol{i}$*,*
$\boldsymbol{x_{ik}}$*= Independent variable* $\boldsymbol{i}$ *for object* $\boldsymbol{k}$*.*

The probability that a case with a discriminant score of $\boldsymbol{Z}$ *belongs to group* $\boldsymbol{i}$ *is estimated by the following equation:*

$$\pi(G_i \mathrm{ID}) = \frac{\pi(DIG_i)\pi(G_i)}{\sum_{i=1}^{n} \pi(DIG_i)\pi(G_i)} \tag{8}$$

Where the prior represented by $P(G_i)$ is an estimate of the likelihood that a case belongs to a certain group. The objects are classified into one or the other group on the basis of the obtained Z score, whether it is higher or lower than the predefined cut off value. Multiple discriminant analysis computes the discriminant coefficients. The discriminant analysis creates a vector of weights in a way that the sum of the products of each element of the vector times the corresponding ratio produces a score that maximizes the distinction between the predefined groups. The distance between the centroids of the two groups is used to test the statistical significance of the discriminant model.

Multiple discriminant analysis assumes several statistical assumptions such as: normal distribution, homogeneity of variances/covariance, correlations between means and variances and multicollinearity. The used dataset was tested for these assumptions. Dummy variables indicating banks size and ownership origin were used as dependent variables for discriminant analysis.

Based on the pure assumptions one would expect large banks to be on average superior to small banks in terms of their profitability, efficiency, capital structure. One would also expect foreign owned banks to be on average superior to locally owned banks.

As the study uses three different groups of financial ratios to test two different hypotheses on whether there is any evidence of difference between banks regarded as large and banks regarded as small, as well as on whether there is any evidence of difference between locally owned banks and foreign owned banks. The results are presented separately for each of the ratio groups.

Eight different profitability ratios were calculated for all 162 bank-years included in the dataset, including return on assets (*ROA*), return on equity (*ROE*), net profit margin (*NPM*), net interest margin (*NIM*), profit per employee (*Profit per emp*), profit per branch (*Profit per branch*), interest revenue per employee (*IR per emp*) and interest revenue per branch (*IR per branch*). The study also uses twelve efficiency ratios, presented in Table 4 in appendices. Bank-year presents a single bank and its financial result in an observed fiscal year.

Data Analysis

All publicly available financial statements of banks operating in both entities in the panel period between 2007-2013 are used in the empirical part of this research. As some of the banks' financial statements were not publicly available, they are not included in the sample. The available financial data for 2007 are included in the research even though there was a relatively high share of banks with missing financial statements. Due to the lack of the centralized bank financial statements data set, each of the financial statements was obtained individually from the available web contents including banks' official web sites, regulatory authority's' web sites and Sarajevo Stock Exchange web site. The next table gives an overview of the number of observations in the observed period.

Table 1: *Number of Data Observations*

Year	2007	2008	2009	2010	2011	2012	2013	Total
Banks included	17	22	24	24	25	25	25	162
Total banks	32	30	30	29	29	28	27	205
% included	53%	73%	80%	83%	86%	89%	93%	79%
Thereof FB&H	*11*	*13*	*16*	*16*	*16*	*16*	*16*	*104*
Thereof RS	*6*	*8*	*8*	*8*	*9*	*9*	*9*	*57*
Thereof small	*12*	*16*	*18*	*18*	*18*	*18*	*18*	*118*
Thereof large	*5*	*6*	*6*	*6*	*7*	*7*	*7*	*44*
Thereof local	*6*	*9*	*11*	*11*	*12*	*12*	*12*	*73*
Thereof foreign	*11*	*13*	*13*	*13*	*13*	*13*	*13*	*89*
HHI (assets)	*0,077*	*0,101*	*0,098*	*0,088*	*0,086*	*0,081*	*0,077*	
C3 (assets)	*0,056*	*0,079*	*0,078*	*0,067*	*0,065*	*0,059*	*0,054*	

Source: Author's calculations

The bank-years data excluded from the study are due to either: (a) banks that faced bankruptcy in the observed periods, (b) public unavailability of financial statements and (c) banks operating under principles of Islamic banking, which are incomparable to the financial statements of banks operating under the traditional banking principles. The study also excludes state development bank due to their different technology, structure and goal compared to the commercial banks (Saeed Al-Muharrami, 2008). The included data relevance is insured as in all observed years the included share of total assets does not drop below 95% of total bank industry assets, except for the ear of 2007 where the included share is 80%. The final dataset includes total of 161 bank-year observations. The data is obtained from both constitutional entities Federation of Bosnia and Herzegovina and Republika Srpska.
The dataset includes 118 small bank-years and 44 large bank years, and 73 local bank-years and foreign bank-years 89. One-way ANOVA was used to test the differences between three groups of financial ratios, controlling for size and ownership structure.

Results/Findings

Small vs. Large

ROA and *ROE* as the most commonly used measures of profitability, exhibited no statistically significant difference between small and large banks in Bosnia and Herzegovina. Even though the mean ROE turns out to be three times the higher for large than for small banks, no statistically significant difference was detected (p-value=0.559). Likewise, NPM showed no profitability difference between small and large banks. NIM, however as an indicator of the relative value of net interest earned, shows that small banks can be considered as more profitable than the large banks as they have an average NIM of 0.640 while the large banks have an average NIM of 0.585, with a relatively high significance level (p-value=0.011). One would also expect that large banks to be more profitable in terms of profit earned per each employee and each open branch. The results of this study, however show no statistically significant difference for these indicators (*Profit per emp* and *Profit per branch*) between the two observed groups. The study was also aiming to test the possible existence of discrepancies between the interest revenue earned relative to total number of employees and total number of branches. Our results show that large banks are on average almost twice as profitable as small banks measured by *IR per emp* as large banks earn on average more than BAM 147000 of interest revenue per employee annually, while the small banks on average earn little more than BAM 79000, as the detected difference has a high significance level (p-value=0.000).The study showed no significant difference between the two groups for *IR per branch*.

The profitability ratios were followed by twelve different efficiency ratios, including interest expense per total deposits (*IE per dep*) as a proxy for average interest rate offered for deposits, interest expense per employee (*IE per emp*), interest expense per branch (*IE per branch*), fixed assets per employee (*FA per emp*), fixed assets per branch (*FA per branch*), interest revenue per employee (*FA per emp*), fixed assets per total assets (*FATA*), loan to deposit ratio (*LTD*), interest revenue per total loans (*IR per loans*), interest revenue per total assets (*IR per assets*), personal expenses per employee (*PEPE*), personal expenses per branch (*PEPB*) and other operating costs per fixed assets (*OOCFA*). Out of the 12 tested variables, six of them exhibited a significant difference between small and large banks.

IE per dep as a proxy for an average interest rate paid by the banks on deposits seems to be significantly higher in large banks (0.042) than is for small banks (0.033), with a p-value of 0.010. *IE per emp* is also significantly higher for large (BAM 62996)

than for small banks (BAM 28603) with a p-value of 0.000. Large banks also seem to be paying more interest expenses per branch as *IE per branch* for large banks is BAM 796190 and just BAM 507359 for small banks (p-value=0.023). FATA in small banks is on average 0.056 and 0.028 for large B&H based banks, as the difference is observed as statistically significant at the p-value of 0.010. Small banks also seem to be more efficient than the large banks in terms of an average personnel cost on an annual level (PEPE) with a high significance level of p=0.000. Large banks, however are more efficient with the level of OOCFT on the level of 0.672 compared to the small banks with 0.900, although with a modest significance level (p-value=0.095).

Lastly, two capital structure ratios were assessed for the two bank groups, including total equity to total asset ratio (*CAPASS*) and total equity per employee (*CAPEmp*).

One would expect large banks operating on the Bosnian banking market, to be better capitalized than the small banks, as they all are in the major or total foreign ownership, or in other words in the ownership of large international banking groups, opposed to the small banks which are mostly owned by local entities. The result of the study show the contrary results, as the *CAPASS* for small banks is 0.194 and 0.110 for large banks with the difference being highly significant (p-value=0.000).

Local vs. Foreign

The results suggest that out of eight analysed profitability ratios, only *IRperemp* shows statistically significant difference between local and foreign banks. All of the other seven analysed profitability ratios indicate to significant differences between two groups of banks. *IRperemp* shows that foreign banks on average earn almost twice as much as local banks do, with a high significance level (p-value=0.000). The analysis shows that foreign banks on average earn around BAM 120000, while local banks seem earn around BAM 69000

The analysis also shows that out of the twelve efficiency ratios ten are significantly different for foreign and local banks. *IE per dep* for local banks is 0.028 and 0.041 for foreign banks, with the difference statistically significant at 0.000. *IE per emp* is also significantly higher for foreign (BAM 25372) than for local banks (BAM 28153) with a p-value of 0.000. No significant difference between the two groups was detected for *IE per branch* ratio. *FAperEmp* and *FAperEmp* are both significantly higher for local banks than for foreign banks, with p-values 0.003 and 0.000

respectively. Foreign banks (0.028) also have significantly lower *FATA* than local banks (0.073) with the difference also significant at 0.000. The difference for the *LTD* ratio was also found to be significantly higher for foreign banks. Both *PEPE* and *PEPB* are significantly higher for local banks than for foreign banks, with p-values 0.000 and 0.009 respectively. *OOCFA* for foreign banks (0.981) is higher than for local banks (0.664), with a high significance level.

The result of the study show that *CAPASS* for local banks is 0.221 and 0.130 for foreign banks with the difference being highly significant (p-value=0.000). Lastly, the analysis of the two size ratios shows that both *ShBr* and *ShEm* are on average several times higher for foreign than for local banks, with high significance levels.

Multiple Discriminant Results

Multiple discriminant analysis model creation included several steps as follows: creation of the base discriminant model to assess the baseline cross-validated predictive ability, checking the database for outliers, testing of variables for normality assumption, substitution of variables not fulfilling normality assumption with transformed variables, checking the variables for multicollinearity, checking the model for homogeneity of variances/covariance assumption with Box'M statistic, checking the Box'M statistic for statistical significance.

Discriminant analysis model assessing the possibility of discriminating between banks of different size used the following ratios as independent variables: *NIM, IRperemp, IEperdep, FATA, PEPE, OOCFA and CAPASS*.

The model has a canonical correlation of .668 and eigenvalue of .805, with the following form:

$$\begin{aligned} Z_{size} = {} & .121\, NIM - .687\, IRperemp - .396\, IEperDep \\ & + .435\, FATA - .557\, PEPE - .233\, OOCFA \\ & + .540\, CAPASS \end{aligned} \tag{6}$$

In the size discriminant analysis model, discriminant function mean for small banks is .985, and -.808 for large banks. The correctly classified 71.23% of small banks and 87.64% of large banks operating in Bosnia and Herzegovina.

Table 2: *MDA Results Small Vs. Large*

Observed	Predicted		% Correct
	Small	Large	
Small	52	21	71,23%
Large	11	78	87,64%
Overall % correct			80,25%

Source: Author's calculations

Discriminant analysis model assessing the possibility of discriminating between banks of different ownership origin used the following ratios as independent variables: IRperemp, IEperdep, FATA, LTD, PEPE, OOCFA and CAPASS.

The model has a canonical correlation of .690 and eigenvalue of .908, with the following form:

$$Z_{ownership} = .999\ IRperemp + .105\ IEperDep - .126\ FATA - .495\ LTD + .157\ PEPE - .404\ OOCFA - .052\ CAPASS \quad (7)$$

In this size discriminant analysis model discriminant function mean for small banks is -.578, and 1.550 for large banks. The correctly classified 88.14% of small banks and 93.18% of large banks operating in Bosnia and Herzegovina.

Table 3: *MDA Results Local Vs. Foreign*

Observed	Predicted		% Correct
	Local owned	Foreign owned	
Local owned	104	14	88,14%
Foreign owned	3	41	93,18%
Overall % correct			89,51%

Source: Author's calculations

Conclusion

The aim of this research was to assess and detect possible differences between profitability, efficiency, capital structure and size ratios between (a) small and large and (b) banks in local and banks in foreign ownership. One would expect that large and foreign banks would exhibit substantially better financial results than small and local banks.

The results of this study have shown that out of included eight profitability ratios, only two show significant difference between small and large banks operating in Bosnia and Herzegovina. Unexpectedly, small banks in Bosnia and Herzegovina have significantly higher net interest margin, as an indicator of the relative spread between active and passive interest. Large banks, however earn almost double interest revenue per employee compared to small banks. As the other six profitability ratios have not shown statistically significant difference between small and large banks, it can be concluded that small banks do have a better active-passive interest management, which does not lead to better overall profitability exhibited though return on equity or net profit margin. Large banks however use their branch network in a more efficient way to earn more interest revenue per employee.

The profitability analysis between locally and foreign owned banks indicated that only one indicator discriminates the two bank groups significantly. The results show similar results as for the small-large banks whereas foreign banks earn almost twice the interest revenue per employee as the locally owned banks.

The analysis of the efficiency which included twelve ratios has shown significant difference between small and large banks for six ratios. Small banks have recorded significantly lower interest expenses per total deposits, total number of employees and total number of branches. In other words, small banks seem to be more efficient than large banks in terms of total interest expense relative to deposits, employees and branches. Unlike for these efficiency ratios, large banks have lower relative share of fixed assets in total assets than small banks, showing that they use and structure their assets in the more efficient way. Employees of large banks earn significantly more than employees of small banks. Large banks also show better efficiency measured as a proportion of operating costs and total fixed assets, than small banks. It can be concluded that small banks are more efficient than large banks in the asset sources management. Large banks however exhibit better efficiency managing their fixed assets and other operating costs compared to small banks.

Efficiency analysis shows that almost all ratios have statistically significant difference between local and foreign banks. Similar to the small-large banks analysis, local banks exhibit better efficiency compared to foreign banks measured by interest expenses per total deposits and per number of employees. Local banks seem to be more efficient than foreign banks as they have lower employee costs. This however can be an indication that foreign banks attract more quality employees whose services are more costly.

Capital structure ratio analysis shows that small banks are significantly better capitalized than large banks in Bosnia and Herzegovina. The possible reason for this may be explained in the way that large banks use their equity sources up to the legal maximum while smaller banks keep a more conservative strategy. The results indicate however, that foreign banks are more efficient than local banks exhibited by lower share of fixed assets per employee and per branch, higher loan to deposit ratio, higher interest revenue per total assets, lower personal expenses per branch and other operating costs per fixed assets.

It was also assessed that local banks have higher capitalization than foreign banks, which indicates similar results as for small versus large banks.
The results have also shown that foreign banks are significantly larger compared to local banks, measured by relative share of number of employees and number of branches in total banking sector employees and branches.

This research has shown that it is also possible to discriminate between Bosnia and Herzegovina banks of different size and ownership origin based on their financial performance, with high predictive abilities. The results of the study can be used by bank managers, potential investors and academics in order to gain better understanding of the banking market in Bosnia and Herzegovina, its performance and patterns. Bankers can use our findings in order to improve their financial results, working efficiencies as well as human resource management. As the results suggest that banks smaller in size tend to have higher net interest margin ratios, further studies aimed at understanding the clear nature of such results may give bank managers an innovative approach in their market battle against competitors. Such results may also be beneficial to existing and potential bank customers, in making their decisions which banks to choose for supporting their business activities, as some are more stable than the others. The results are also beneficial for potential investors on the banking market of Bosnia and Herzegovina as they may indicate what bank

structure should be chosen for an investment. The main limitations of this research are lack of centralized data on the banking market of Bosnia and Herzegovina. Some of the banks failed to disclose financial statements on their official web sites, which disabled using full banking market data for this research.

The author proposed further research, extending the focus on the neighbouring countries and comparing the results, in order to draw deeper and wider conclusions and understanding of banking market movements as well as to conduct deeper research that may indicate why certain groups of banks exhibit better financial performance than others. We also propose that profitability on the banking market of Bosnia and Herzegovina is also analysed using alternative methodologies in order to provide an insight to the most and least efficient methodologies for problems of such nature and structure.

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Appendix

Table 4: *Financial ratios used*

Group		Symbol	Calculated as
Profitability		*ROA*	Profit (loss) before tax/Total assets
Profitability	*ROE*	Profit (loss) before tax/Total equity	
Profitability	*NPM*	Profit (loss) before tax/Interest revenues	
Profitability	*NIM*	Net interest revenue/Interest revenues	
Profitability	*Profit per emp*	Profit/# of employees	
Profitability	*Profit per branch*	Profit/# of branches	
Profitability	*IR per emp*	Interest revenue/# of employees	
Profitability	*IR per branch*	Interest revenue/# of branches	
Efficiency	*IE per dep*	Interest expense/Deposits	
Efficiency	*IE per emp*	Interest expense/# of employees	
Efficiency	*IE per branch*	Interest expense/# of branches	
Efficiency	*FA per emp*	Fixed assets/# of employees	
Efficiency	*FA per branch*	Fixed assets/# of branches	
Efficiency	*FATA*	Fixed assets/Total assets	
Efficiency	*LTD*	Loans/Deposits	
Efficiency	*IR per loans*	Interest revenue/Loans	
Efficiency	*IR per assets*	Interest revenue/Total assets	
Efficiency	*PEPE*	Personal expenses/# of employees	
Efficiency	*PEPB*	Personal expenses/# of branches	
Efficiency	*OOCFA*	Other operating costs/Fixed assets	
Capital structure	*CAPASS*	Total equity/Total assets	
Capital structure	*CAPEmp*	Total equity/# of employees	
Size	*ShBr*	Number of branches/Sector number of branches	
Size	*ShEm*	Number of employees/Sector number of employees	

Source: Author's work

Table 5: *Descriptive statistics (size)*

Data set	Small				Large				Total					
Variable	**Mean**	**Std.Dev.**	**Min**	**Max**	**Mean**	**Std.Dev.**	**Min**	**Max**	**Mean**	**Std.Dev.**	**Min**	**Max**	**Sig.**	
ROA	0,00132	0,024	-0,174	0,058	0,00137	0,024	-0,095	0,037	0,001	0,024	-0,174	0,058	0,990	Profitability
ROE	0,01160	0,125	-0,861	0,201	0,03694	0,204	-0,936	0,405	0,017	0,151	-0,936	0,405	0,539	
NPM	0,035	0,615	-4,987	1,772	0,031	0,458	-2,049	0,641	0,034	0,576	-4,987	1,772	0,974	
NIM	0,640	0,131	-0,296	0,860	0,585	0,093	0,370	0,775	0,625	0,124	-0,296	0,860	0,011	
Profitperemp	4691,800	23717,800	-148931,000	45564,500	3470,760	63031,100	-244338,000	109530,000	4360,160	38943,000	-244338,000	109530,000	0,858	
Profitpetbanch	128359,000	467227,000	-1508583,000	2825000,000	23537,100	806551,000	-2952851,000	1153711,000	99888,600	578421,000	-2952851,000	2825000,000	0,306	
IRperemp	79133,400	37091,300	13305,600	210242,000	147387,000	41500,700	101282,000	265898,000	97671,300	48858,100	13305,600	263898,000	0,000	
IRperbranch	1411429,000	1975614,000	159667,000	13000000,000	1806781,000	681754,000	717314,000	3253898,000	1518988,000	1729633,000	159667,000	13000000,000	0,197	
IEperDep	0,033	0,017	0,010	0,108	0,042	0,023	0,014	0,105	0,035	0,019	0,010	0,108	0,010	
IEperEmp	28603,900	16424,000	5138,890	95907,700	62996,200	30173,200	31774,700	162142,000	37945,000	23973,900	5138,890	162142,000	0,000	
IEperBranch	507393,300	65311,880	378388,900	636337,800	789190,100	62099,220	646556,000	891824,100	578473,900	51204,630	477354,600	679593,200	0,023	
FAperEmp	74912,670	8829,995	57475,130	92350,220	73560,400	3776,523	66102,490	81018,300	74545,390	6504,468	61700,310	87390,470	0,927	
FAperBranch	1888951,000	446386,000	1110929,000	21700000,000	908171,000	434745,000	376074,000	1872417,000	1622566,000	303976,000	1110929,000	21700000,000	0,148	Efficiency
FATA	0,056	0,071	0,008	0,644	0,028	0,010	0,015	0,057	0,049	0,062	0,008	0,644	0,010	
LTD	1,030	0,550	0,350	5,290	1,120	0,490	0,530	2,510	1,060	0,540	0,350	5,290	0,353	
IRperLoans	0,094	0,027	0,037	0,240	0,087	0,011	0,072	0,116	0,092	0,024	0,037	0,240	0,113	
IRperAssets	0,055	0,016	0,015	0,125	0,055	0,008	0,042	0,071	0,055	0,014	0,015	0,125	0,914	
PEPE	27217,500	5294,720	10206,900	38796,900	32361,100	4214,230	23498,100	42385,900	28614,500	5512,020	10206,900	42385,900	0,000	
PEPB	435761,000	398197,000	165156,000	2483000,000	398383,000	132117,000	176406,000	623906,000	425609,000	339142,000	165156,000	2483000,000	0,534	
OCCFA	0,900	0,881	0,025	6,071	0,672	0,276	0,229	1,339	0,838	0,772	0,025	6,071	0,095	
CAPASS	0,194	0,113	0,068	0,633	0,110	0,037	0,058	0,206	0,171	0,105	0,058	0,633	0,000	
CAPEmp	262584,000	167401,000	45304,500	941089,000	286651,000	90526,600	128455,000	469883,000	269121,000	150561,000	45304,500	941089,000	0,367	CS
No of observations	118				44				162					

Source: Author's work

Table 6: *Descriptive statistics (ownership)*

Data set	Local				Foreign				Total					
Variable	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max	Sig.	
ROA	0,000	0,030	-0,174	0,058	0,002	0,018	-0,095	0,037	0,001	0,024	-0,174	0,058	0,506	
ROE	0,004	0,142	-0,861	0,201	0,028	0,157	-0,936	0,405	0,017	0,151	-0,936	0,405	0,319	
NPM	0,014	0,777	-4,987	1,772	0,050	0,334	-2,049	0,641	0,034	0,576	-4,987	1,772	0,687	
NIM	0,640	0,101	0,448	0,860	0,613	0,139	-0,296	0,856	0,625	0,124	-0,296	0,860	0,172	
Profitperemp	2786,650	28625,200	-148931,000	45564,500	5650,790	44895,600	-244038,000	109530,000	4360,160	30343,000	-244038,000	109530,000	0,638	
Profitperbanch	160100,000	580092,000	-1588583,000	2825000,000	50501,900	575600,000	-2952851,000	1153711,000	99888,600	578421,000	-2952851,000	2825000,000	0,231	
IRperemp	69459,900	380113,300	13305,600	2102,000	120811,000	44534,300	54457,700	265898,000	97671,300	48858,100	13305,600	265898,000	0,000	
IRperbranch	1611453,000	2473083,000	159667,000	13000000,000	1442819,000	675462,000	339360,000	3225898,000	1518808,000	1729633,000	159667,000	13000000,000	0,539	
IEperDep	0,028	0,014	0,010	0,104	0,041	0,021	0,013	0,108	0,035	0,019	0,010	0,108	0,000	
IEperEmp	25372,100	15750,400	5130,890	76875,000	48257,600	28153,700	8076,020	162142,000	37945,000	25973,500	5138,890	162142,000	0,000	
IEperBranch	572996,000	873854,000	59466,700	4920000,000	582967,000	386537,000	51148,100	1990216,000	578474,000	651728,000	51148,100	4920000,000	0,923	
FAperEmp	95705,700	116354,000	12904,400	743623,000	57189,200	28049,400	11238,800	131142,000	74545,400	82788,400	11258,800	743623,000	0,003	
FAperBranch	2786683,000	5496628,000	110929,000	21700000,000	667729,000	411541,000	186114,000	1872417,000	1622566,000	3836976,000	110929,000	21700000,000	0,000	
FATA	0,073	0,085	0,008	0,644	0,028	0,013	0,010	0,077	0,049	0,062	0,008	0,644	0,000	
LTD	0,910	0,620	0,350	5,290	1,180	0,430	0,530	2,510	1,060	0,540	0,350	5,290	0,001	
IRperLoans	0,093	0,025	0,037	0,240	0,092	0,022	0,051	0,188	0,092	0,024	0,037	0,240	0,719	
IRperAssets	0,050	0,011	0,015	0,076	0,060	0,015	0,023	0,125	0,055	0,014	0,015	0,125	0,000	
PEPE	25899,300	5252,400	10206,900	38796,900	30841,700	4677,780	20315,300	42385,900	28614,500	5512,020	10206,900	42385,900	0,000	
PEPB	501950,000	479116,000	165156,000	2483000,000	362992,000	117534,000	176406,000	629306,000	425609,000	339142,000	165156,000	2483000,000	0,009	
OOCFA	0,664	0,693	0,025	3,310	0,981	0,807	0,229	6,071	0,838	0,772	0,025	6,071	0,009	
CAPASS	0,221	0,114	0,066	0,633	0,130	0,075	0,058	0,455	0,171	0,105	0,058	0,633	0,000	
CAPEmp	286682,000	190162,000	107429,000	941089,000	254717,000	166869,000	45304,500	469983,000	269121,000	150561,000	45304,500	941089,000	0,180	
ShBr	0,018	0,015	0,001	0,071	0,064	0,029	0,023	0,150	0,043	0,033	0,001	0,150	0,000	
ShEm	0,019	0,013	0,003	0,063	0,063	0,042	0,015	0,204	0,043	0,039	0,003	0,204	0,000	
No of observations	73				89				162					

Profitability | Efficiency | CS | Size

Source: Author's work

Contemporary Forms of Supporting Entrepreneurship and Investments on SMEs: The case of Polog Region in the Republic of Macedonia

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Abstract: *The world economy is facing a variety of financial and economic challenges caused by different economic and political crises. Furthermore, the crises have had a negative impact that has been reflected on the macroeconomic indicators of each national economy. In these circumstances the transition economies, especially the Western Balkan countries needed to cope with the ever growing international competition, increasing unemployment, lack of private initiatives and investments, low level of economic growth and development. As a result, the attention is oriented towards SMEs, the importance of SMEs as a key pillar to sustainable growth and competitiveness on national and global market. The focus of this research is the importance of various contemporary forms which support entrepreneurship in order to increase investments, such as: business start-up centres, clusters, business incubators, economic zones and investment funds. The main objective of this research is to determine and measure the relationship between the SMEs from Polog region and contemporary institutions: business development centre (BDC) and technology park (TP) at SEE University, Enterprise Support Agency (ESA) as a private company and economic chamber of Macedonia which support private initiatives and increase their investments. In order to determine the relationship, a survey on SMEs in Polog region is conducted. The methodology used is cross tabulation two-way tables with measures of association based on data analysis from surveys and processed by STATA software. The main finding of this research is the positive impact of BDC, ESA and economic chamber on Polog region SMEs on the increase of their investments.*

Keywords: *Investments, SMEs, Entrepreneurship, BDC, Growth, Economic Development*

JEL Classification: *D02, M13, M21*

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Introduction

The world economy is challenged by different political, economic and financial issues that impact various negative repercussions on international business and macroeconomic indicators at the national level. Nowadays, the worldwide economies are characterized by high competition, declining trend of private initiatives and weak economic growth and development. The actual economic position of all economies, especially transition countries, offers an opportunity to develop entrepreneurship and gives a greater importance to SMEs. Small and medium-sized companies are a key link of development and economic growth especially for economies with two levels of government, local or regional level and central government. Supporting the SMEs provides a key role in increasing investments and increasing employment and overall well-being at the same time.

What is meant by SMEs? What is included in SMEs will depend on the Company Law of each country which is object of analysis. The Republic of Macedonia has the status of a Country candidate to adhere to EU, and in general the Law needed to adapt to EU law. In this case it will be offer the thresholds related to SMEs in Republic of Macedonia (Company Law, 2006) and EU (EC, 2005), (Appendix Table-6).

According to the Macedonian Company Law the category SMEs includes three types of entities: the micro size commercial entity, the medium size commercial entity and the small size commercial entity.

A micro size commercial entity shall be a commercial entity that, in each of the last two accounting years, or in the first year of business activities, has met the first criteria and at least one of the second or third of the following criteria:

- The average number of employees, based on the number of their full-time working hours, is up to 10 employees; and
- The gross annual revenue acquired from any source does not exceed EUR 50,000 in Macedonian Denars counter-value; and not more than 80% of the gross income of the enterprises acquired from one client/consumer and/or from an individual who is related to this client/consumer; and
- All rights to participate in the micro-company are owned by not more than two natural persons.

A small size commercial entity shall be a commercial entity that, in each of the last two accounting years, or in the first year of business activities, has met the first criteria and at least one of the second or third of the following criteria:

- The average number of employees, based on the number of their full-time working hours, is up to 50 employees; and
- The annual income is less than EUR 2,000,000 in Macedonian Denar counter-value, and the total turnover is less than EUR 2,000,000 in Macedonian Denar counter-value; and/or
- The average value (at the beginning and at the end of the accounting year) of the total assets is less than EUR 2,000,000 in Macedonian Denar counter-value.

A medium size commercial entity shall be a commercial entity that, in each of the last two accounting years, or in the first year of business activities, has met the first criteria and at least one of the second or third of the following criteria:

- The average number of employees, based on the number of their full-time working hours, is up to 250 employees;
- The annual income is less than EUR 10,000,000 in Macedonian Denar counter-value; and/or
- The average value (at the beginning and at the end of the accounting year) of the total assets is less than EUR 10,000,000 in Macedonian Denar counter-value.

The SMEs from Polog region are characterized by a traditional and contemporary entrepreneurial approach. The entrepreneurial approach is a very complex process and composed by the following characteristics: innovation, cooperation with start-up and business centres, risk-taking, decision making, etc. The stated characteristics make the contemporary entrepreneurial approach more different compared to the traditional approach.

The relationship between the business sector and the contemporary forms which support and develop them are different during the different stages of the economic development. In this occasion this research paper tends to offer information about the importance of these forms which have supported the SMEs and would have the possibility to support the same in the Polog region of Macedonia in the coming future.

Literature Review

Modern economies have devoted great importance to contemporary forms which support the private initiatives. They developed the business ideas, supporting the creation of business plans with the final goal to most effectively establish SMEs. In transition economies the SMEs are supported especially by central and local institutions sometimes by other state institutions. Unfortunately, in Macedonia and in other transition economies, the contemporary institutions supporting the enterprises are developed slower. Every transition economy needed to create a strategy to develop these forms. The strategies of every transition economy should utilize the contemporary experiences from developed countries and encourage the entrepreneurs from SMEs to increase investments and employment. There is a substantial literature from relevant international institutions, some of which is mentioned in the following text.

Business start-up centre or business development centre is an entity which assists individuals to develop their business ideas from their beginning toward formalizing their real business activities, in other words a new business entity (Mazllami, 2011). The access to business centers is very specific. The SMEs can take different consultations related to very important issues such as: how to start doing business or how to continue business activities, how to implement the business plan as a condition for a successful business. Founders of such business start-ups or business development centres are usually higher education institutions such as universities or faculties, local governments and others.

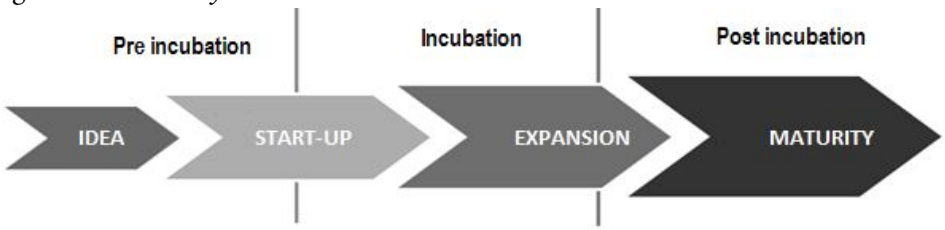
According to the empirical analysis of the newly established 564 companies in Yangtze delta area in China, Tao Chen and Zh. Zhue have managed to conclude that environmental trust has positive effect on the construction of network relationship and network capacity, while the knowledge acquisition was significantly and positively correlated to the start-up firm performance (Zhao, Ordóñez and Tennyson, 2015).

A business incubator is an entity which supports processes that accelerate the successful development of start-ups and fledgling companies by providing entrepreneurs with an array of targeted resources and services. These services are usually developed or orchestrated by incubator management and offered both in the business incubator and through its network of providers (Oklahoma, 2014).

According to the EU Centre for Strategy & Evaluation Services (IBRD, 2010), a business incubator is an entity that accelerates and systematizes the process of creating successful enterprises by providing them with a comprehensive and integrated range of support, including: incubator space, business support services, clustering and networking opportunities; a successful business incubator will generate a steady flow of new businesses with above average job and wealth creation potential.

On a world level, the application of incubators in SMEs began as a method of economic development at federal, regional and local level. Regarding the location where the incubators function, two types of incubators are known: ***regional/local incubator and corporate incubator.*** According to Davies Mark, the Business incubator has an important impact during the developing process of the new enterprise known as start-up of the business cycle (Figure 1).

Figure 1. *Business Cycle*



Source: Davies Mark: Mixed-use Incubator Handbook a Start-up Guide for Incubator Developers, author's design

An economic zone is an entity with a specific specialty to solve problems related to foreign trade, but gradually the focus of their activities is oriented towards production industry, scientific and technical innovation goals. The economic zone can be considered as an independent part of a national economy, but conversley the economic zone is an important part of the developing economic system. Economic zones largely contribute to the accomplishment of national interests whether it is in economic or social plan. The benefits from economic zones are enormous. They usually provide lower customs and taxes rates or charges on imports of raw materials.

According to the traditional approach to economic zones there are three types of economic zones: industrial, commercial and service and mixed economic zone. According to the contemporary approach (IFC, MIGA, and IBRD, Washington 2008) the economic zone is a special economic zone such as: *Free Trade Zone*

(FTZ), Traditional Export Processing Zone (EPZ), Hybrid Export Processing Zone (EPZ), Freeport, Urban Free Zones, Single Factory Export Processing Zone (EPZ). The principles incorporated in the basic concept of a special economic zone include:

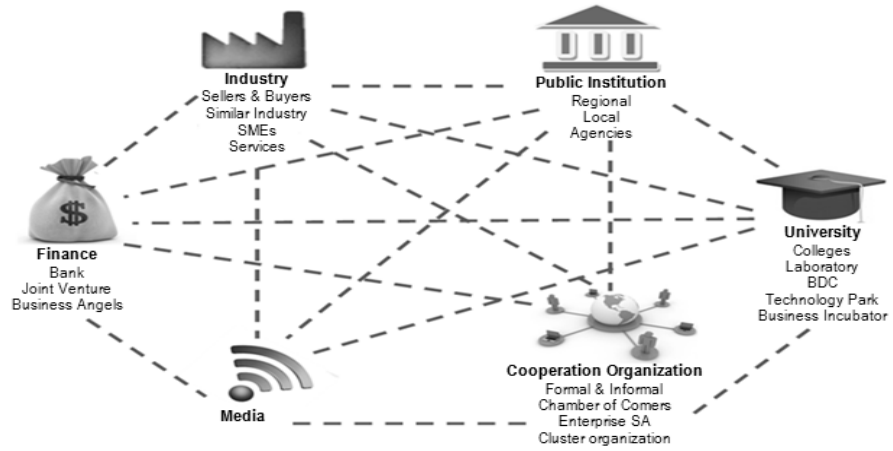
- Geographically delimited area, usually physically secured (fenced-in)
- Single management/administration
- Eligibility for benefits based upon physical location within the zone
- Separate customs area (duty-free benefits) and streamlined procedures.

Technology Park is an organization, physical or virtual, managed by a specialized professional team that provides value-added services, whose main aim is to increase the competitiveness of its region or territory of influence by stimulating a culture of quality and innovation among its associated businesses and knowledge-based institutions, organizing the transfer of knowledge and technology from its sources to companies and to the market place, and by actively fostering the creation of new and sustainable innovation-based companies through incubation and spin-off processes; and provides other value-added services together with high quality premises and facilities (Bellavista and Sanz, 2009).

Creative cluster is a geographic concentration of interconnected companies, specialized suppliers, service providers, firms of related industries, and associated institutions (universities, standards agencies, trade associations) in a particular field that compete but also cooperate. The geographic scope of a cluster relates to the distance over which informational, transactional, incentive, and other efficiencies occur (Porter, 2000). According to Porter's definition, the cluster stages include many types of institutions and different actors. In this case we have identified six main types: firms, financial entity, public institutions, universities, collaboration organizations and media. (Figure-2)

Some authors from UK explain the very important role of anchor institutions (university and business school) to develop the SMEs through consultancy, contract research, professional and human development workshop or seminars, start-ups and others supporting activities for enterprises (Smallbone, Kitching and Blackburn, 2015).

Figure 2. *Network of Institutions-Creative Clusters*



Source: O. Sölvell,: Clusters – Balancing Evolutionary and Constructive Forces, 2008, author's design

Wim Naude from Maastricht School of management in the paper *Entrepreneurship and economic development: Theory, evidence and policy* (2013), conclude that the entrepreneurship provides a new perspective to develop economies; entrepreneurship influences development outcomes positively as well as negatively; and entrepreneurship is in turn significantly determined by the dynamics of development.

Overview of Business Entities in the Republic of Macedonia: The Polog Region Case

The economy of a country or region includes a complex set of all economic activities as parts of a whole, which are closely related and dependent on one another. All these branches of economic activities in general represent the economy of a country. Activities of social life, which form the economic base, financial and material life of people, and economic reports between people derived from work and satisfaction from work are included within the economy of a country.

According to the new law on territorial reorganization in the Republic of Macedonia, the number of municipalities was reduced from 124 to 85. This regrouping was attempted to achieve an optimal size of municipalities to emphasize the economic potential in terms of realization of economic activities. According to

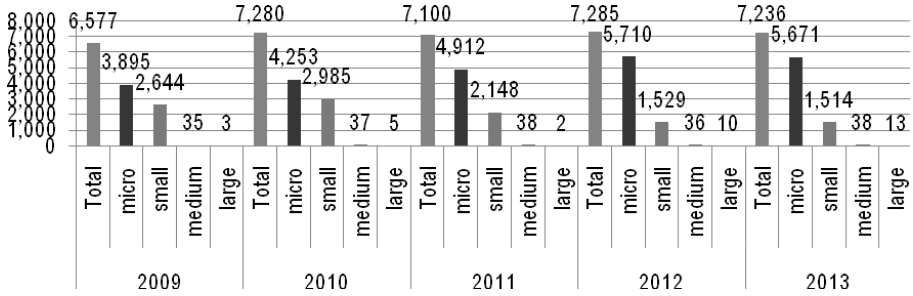
the reshuffling of regional municipalities in Republic of Macedonia and according to statistical classification nomenclature-territorial units NUTS-3 have 8 regions: Vardar, Eastern, North Eastern, Southwest, Southeast, Pelagonija, Polog and Skopje.

The Polog region includes two major cities of Polog valley, Tetovo and Gostivar. The Polog region is known as a region of private initiatives and the executor of many successful businesses.

Based on the trend of the enterprise category (micro, small, medium and large) in the Polog Region during last 5-years (2009-2013) it could be concluded that (Figure 3):

- The total number of SMEs has increased for 659 entities (from 6.577 to 7236),
- The number of micro business entities has significantly increased for 1776 entities (from 3.896 to 5671),
- The number of small business entities has significantly decreased for 1130 entities (from 2644 to 1514)
- The number of medium and large business entities has shown slower growth compared to other categories.

Figure 3. *The number of SMEs in Polog Region (2009-2013)*

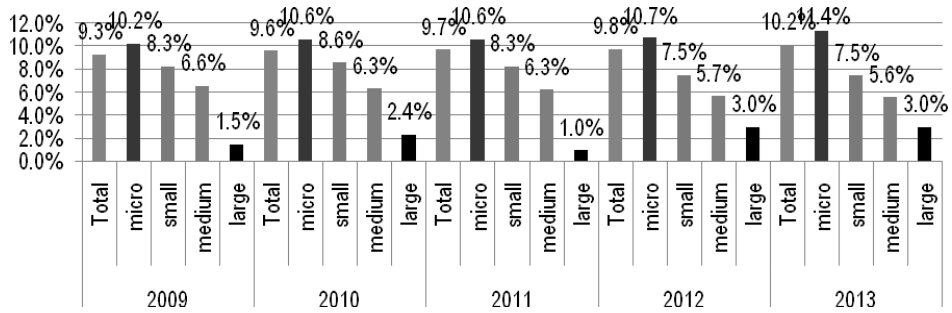


Source: State Statistical Office of RM, author's calculation

The analysis of participation of Polog SMEs as part of the Macedonian economy during 2009-2013 is as follows (Figure 4):

- The percentage of total SMS has increased from 9.3% to 10,2%,
- The higher percentage from SMEs are micro business entities

Figure 4. *The number of Polog Region SMEs as part of RM economy (%), (2009-2013)*



Source: State Statistical Office of RM, author's calculation

There are several contemporary institutions of a high significance to the citizens and the business sector in the Polog region. There are two higher education institutions: the State University of Tetova (SUT) and South East European University (SEEU). In SEEU there are two contemporary institutions which are supporting the SMEs of Polog region: the Business Development Centre (BDC) and the Technology Park (TP). There are some private entities which are supporting SMEs in the Polog region, but of a high relevance and long time experience such as: Enterprise Support Agency (ESA) and Economic Chamber of North-West Macedonia (ECNWM).

The objective of the research is to measure and test the level of relationship between the category of companies (micro, small and medium) and contemporary forms (BDC, TP, ESA, EC) and their impact on them. The focus of the research is the relationship between categories as follows:

1. *Category of companies vs. Institutions which support the entrepreneurship*
   - *1.1 Category of companies vs. Institutions which support the entrepreneurship (Economic chambers, BDC and ESA)*

2. *Category of companies vs. Service satisfaction about services provided by BDC and ESA*
3. *Category of companies vs. Increasing the services received by BDC, TP and ESA*
    3.1 Category of companies (which increase the investments) vs. Increasing the services received by BDC, TP and ESA
4. *Attendance of seminars, training, workshops for R&D vs. Trend of investment in the past three years*

Data and Methodology

The research data is generated by a questionnaire conducted in 244 SMEs in the Polog Region, Republic of Macedonia. The questionnaire contains 9 questions which will transform in 9 variables processed by STATA (Appendix Table 6).

The survey sample for SMEs of Polog region on one hand is dominated mostly by business trade activity 41.8%, production 29.1% and in the other 87.7% by micro companies, 9.4% small companies, and only 2.9% by medium companies (Figure 5, 6).

Figure 5. *Business Activity*

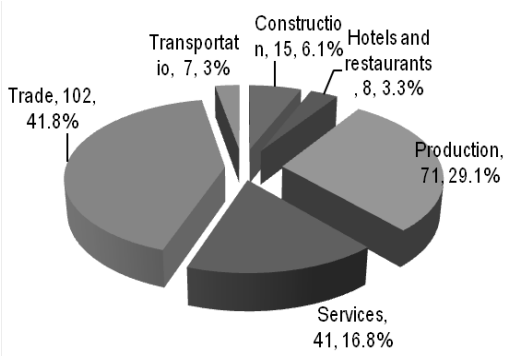
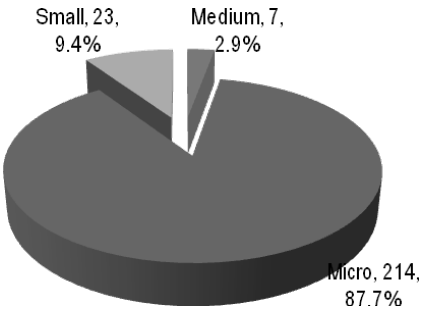


Figure 6. *Category of company*



The used methodology is cross tabulation two-way tables with measures of association of the survey conducted in the Polog region SMEs processed by STATA software. According to this methodology the following hypotheses will be tested:

- ***The null hypothesis (Ho):*** *No relationship between variables*
- ***The alternative hypothesis (Ha):*** *Existing relationship between variables*

The estimation and testing of hypotheses will be realized as follows:

- *Cross tabulation two-way tables with measures of association.*
- *Statistic Testing: X2 (chi-square) tests* (Wolfe, 1999), *Cramer's V test, Gamma, Kandall'staub test and Fisher's exact test* (Jann, B. 2008).

Measuring Results and Testing Hypotheses

The focus of this research is testing four main hypotheses and two auxiliary hypotheses as follows:

Hypothesis-1 No relationship between company category and institution type which support entrepreneurship.

According to the cross tabulation results between company category and institution which support entrepreneurship, it could be concluded*:* (Table 1):

- 31.78% of micro enterprises have declared that local government is supporting their entrepreneurship activities, Banks 24.77%, BDC & ESA 18.22%, etc.
- 30.43% of the small enterprises believe that Local Government and University BDC & ESA Government are supporting their entrepreneurship activities.
- Most medium companies (57.14%) have declared that central government are supporting their entrepreneurship activities.
- In general, according to the sample of Polog region 31.56% of SMEs have declared that local government is supporting their entrepreneurship activities, Banks 23.36%, central government 21.72%, BDC & ESA 18.85% and economic chamber 4.51%.

Table 1. *Category of Companies and Institutions which Support Entrepreneurship*

Company category	Institutions which support entrepreneurship						
	L	Banks	Central Gov	Chambers Com	Local Gov	BDC&ESA	Total
Micro	f	53	44	10	68	39	214
	R%	24.77	20.56	4.67	31.78	18.22	100
	Co%	92.98	83.02	90.91	88.31	84.78	87.7
	Ce%	21.72	18.03	4.1	27.87	15.98	87.7
Small	F	4	5	0	7	7	23
	R%	17.39	21.74	0	30.43	30.43	100
	Co%	7.02	9.43	0	9.09	15.22	9.43
	Ce%	1.64	2.05	0	2.87	2.87	9.43
Medium	F	0	4	1	2	0	7
	R%	0	57.14	14.29	28.57	0	100
	Co%	0	7.55	9.09	2.6	0	2.87
	Ce%	0	1.64	0.41	0.82	0	2.87
Total	F	57	53	11	77	46	244
	R%	23.36	21.72	4.51	31.56	18.85	100
	Co%	100	100	100	100	100	100
	Ce%	23.36	21.72	4.51	31.56	18.85	100

Legend: Frequency (f), Row percentage (R%),Column percentage (Co%), Cells percentage (Ce%)

The testing of correlation between the company category and institution which support the entrepreneurship is shown as follows:

TESTING:	RESULTS :
Pearson chi2 (8) = 11.9107	
Pr = 0.155	Because Pr>0.05 (5%IC) then we accept H(0)
Crammer's V= 0.1562	V: ∈+ or -0.10 to 0.19 then the association is weak
Gamma= 1.0000	

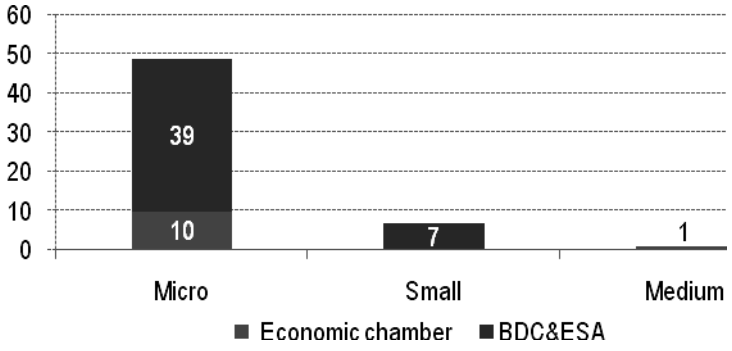
The results from testing hypothesis 1 indicate that in general there is no correlation between the Company Category (micro, small and medium size company) and the type of Institution that supports entrepreneurship (Banks, Central Government, Chambers of Commerce, Local Government, BDC and ESA).

Hypothesis-1.1. No relationship between company categories and institution type which support entrepreneurship with special emphasis on economic chamber, business development centre (BDC) & enterprise support agency (ESA).

According to the cross tabulation results between company category and especially with economic chamber, business development centre (BDC) & enterprise support agency (ESA) the following can be concluded: (Figure 7, Appendix Table 7)

- 23.4% or 57 of 244 SMEs have declared they have used services provided by EC, BDC and ESA
- 20.4% or 10 of 49 micro companies have declared they have used services provided by economic chamber and 79.6% or 39 of 49 micro companies that they have used services provided by BDC & ESA.
- All 7 of the small companies have declared they have used services only provided by BDC & ESA.
- One medium company has declared it has used services provided only by the economic chamber.

Figure 7. *Relation Between Company Category and Institutions Which Support Entrepreneurship (Economic Chamber, BDC and ESA)*



The testing of correlation between the company category and economic chamber, *BDC and ESA*, is as follows:

TESTING:	RESULTS :
Pearson chi2 (2) = 5.8945 Pr = 0.052	Because Pr=0.05 (at 95% confidence) then we accept H(a) There is a relationship between Company categories vs. EC, BDC&ESA.
Crammer's V= 0.3216	V=0.3216 ∈ (+ or -) 0.30 or above, this association is strong
Gamma= 1.0000	G=1.0000 then there is a positive strong relationship

The results from testing hypothesis 1.1 indicate that there is a relationship between the enterprises category and EC, BDC and ESA. These results confirm the declarations of SMEs from Polog region that the institution type mentioned above have supported their entrepreneurship activities and in general have improved the entrepreneurship climate in Polog region.

Hypothesis-2 No relationship between company category and service satisfaction of services provided by BDC and ESA.

The most important issue of SMEs in Polog region is the level of satisfaction from services provided by BDC and ESA. As a result of cross tabulation of SMEs related to this issue the following results have been obtained (Table 2):

- 11.2% (24 companies) and 46.3% (99 companies) from all micro companies have declared that they have been very satisfied and satisfied with services provided by BDC and ESA.
- 8.6% (2 companies) and 56.6% (13 companies) of all small companies have declared they have been very satisfied and satisfied with services provided by BDC and ESA and
- 71.4% (5 companies) of medium company have declared they have been very satisfied and satisfied with services provided by BDC and ESA.

Table 2. *Enterprises Category and Service Satisfaction of Services Provided by BDC and ESA*

Company category	Service Satisfaction of services provided by BDC and ESA				
	Very dissatisfied	Dissatisfied	Satisfied	Very satisfied	Total
Micro	45	44	99	24	214
Small	3	5	13	2	23
Medium	0	2	5	0	7
Total	48	51	117	26	244

The testing of correlation between these categories is as follows:

TESTING:	RESULTS :
Pearson chi2 (6) = 4.423 Pr = 0.620	Because Pr>0.05 (at 95% confidence) then we accept H(0) No relationship between Enterprise Category &service satisfaction about services provided by BDC&ESA
Crammer's V= 0.0952	V=0.0952∈ (+ or -) 0.01 to 0.10 this association is very weak
Gamma= 0.216	G=0.2165<1.0000 then there is a positive weak relationship

The results from testing hypothesis 2 indicate that there is no relationship between enterprise categories and service satisfaction about services provided by BDC and ESA. The results do not confirm the declarations of SMEs from Polog region about the service satisfactions of the institution type mentioned above. In this case, as a result of a very poor level of correlation between category types which are the object of study do not relate to the declaration of SMEs concerning this issue.

Hypothesis-3 No relationship between company categories and increasing services received by BDC, TP and ESA

One of the goals of this research is to measure the correlation between SMEs and the process of increasing services received by BDC, TP and ESA. As a results of cross tabulation of SMEs answers related to this issue, the following results have been obtained. (Table 3):

- 59.8% of micro companies, 21.7% of small companies and 55.3% of medium companies have declared that the services received by BDC, TP and ESA will increase in the future.
- SMEs of Polog region believe that in the future these institutions should help and will support more their entrepreneurial activities.

Table 3. *Company Category and the Increasing of Services Received by BDC, TP and ESA*

Company category		Increasing the services received by BDC, SEEU Tech Park and ESA		
		YES	NO	Total
Micro	F	128	86	214
	R%	59.81	40.19	100.00
Small	F	5	18	23
	R%	21.74	78.26	100.00
Medium	F	2	5	7
	R%	28.57	71.43	100.00
Total	F	135	109	244
	R%	55.33	44.67	100.00

The testing of correlation between these categories is as follows:

TESTING:	RESULTS :
Pearson chi2 (2) = 14.2680 Pr = 0.001	Because Pr=0.001<0.05 (at 95% confidence) then we accept H(a)
likelihood-ratio chi2 (2) = 14.6491 Pr= 0.001	Relationship exists between Enterprise Category & Inst. which support entrepreneurship
Crammer's V= 0.2418	V=0.2418 ∈ (+ or -) 0.20 to 029, this association is moderate
Gamma= 0.3928	G=0.3928<1.0000 then there is a positive moderate relationship
Fisher's exact = 0.000	Here we reject the (H_0) and conclude that there is a relationship between variables

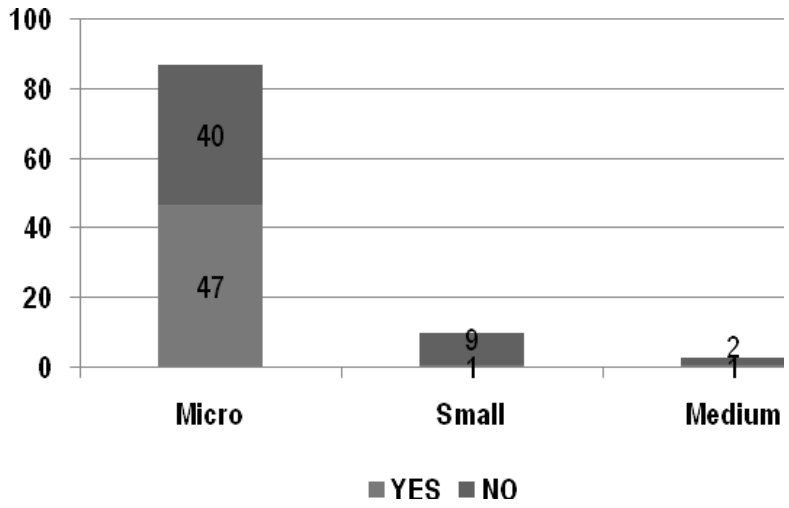
The results from testing hypothesis 3 indicate that there is a positive relationship between enterprise categories and increasing services received by BDC, TP and ESA. These results confirm the declarations of SMEs from Polog region as a significant issue that the services received by BDC, TP and ESA will have a positive trend and will support more their entrepreneurship in the future.

Hypothesis-3.1 No relationship between category of enterprise (which increased the investments in the last three years) and increasing services received by BDC, TP and ESA

According to the cross tabulation answers of SMEs which increased the investments in the last three years and increasing services received by BDC, TP and ESA we have obtained the following results: (Figure 8, Appendix Table 8)

- 40.98% or 100 of 244 SMEs have declared that during the last three years have increased their investments.
- 54.0% or 47 of 87 micro companies, 1% or 1 of 10 small companies and 33.3% or 1 of 3 medium companies are declared parallel to their investment increase have increased the services received by BDC, TP and ESA.

Figure 8. *Enterprise Category with Increased Investments in the last 3 Years and BDC, TP and ESA*



The testing of correlation between these categories is as follows:

TESTING:	RESULTS :
Pearson chi2 (2) = 7.2595 Pr = 0.027	Because Pr=0.027<0.05 (at 95% confidence) then we accept H(a) There is relationship between company category with
likelihood-ratio chi2 (2) = 8.2249 Pr= 0.016	increased investments & institution type BDC, TP, ESA)
Crammer's V= 0.2694	V=0.2694 ∈ (+ or -) 0.20 to 029, this association is moderate
Gamma= 0.5526 Kendall's tau-b = 0.1973	G=0.5526<1.0000 then there is a strong relationship
Fisher's exact = 0.015	F=0.015 near 0, we conclude that there is a relationship between variables

The results from testing hypothesis 3.1 indicate that there is a positive relationship between SMEs which have increased their investments in the last 3-years and increasing services provided by BDC, TP and ESA. These results confirm the strong opportunity of SMEs of Polog region to increase their investments being supported by BDC, TP and ESA. In general, this will improve the investment climate in region and broader.

Hypothesis-4 No relationship between company categories which have attended seminars, training, workshops for R&D and trend of their investments in the last three years.

According to the cross tabulation answers between categories mentioned in hypothesis 4, we can conclude as follows: (Table 4)

- 56.1% or 137 of 244 SMEs have declared that have attended seminars and workshop on research and development (R&D).
- 51.0% or 51 of 100 SMEs which have increased their investments during last 3 years declared that have attended seminars, training, workshops and R&D activities.
- 3.6% or 5 of 137 SMEs which have attended the seminars, training, workshops and R&D activities have declared that have had significant increase of investments.

Table 4 *Companies which have Attended Seminars, Training, Workshops and the Trend of Increasing Investments during last 3 years*

Attendance of seminars training, WSH – R&D	Trend of investment during last three years					
	K	Decrease	Increase	Sig.Increase	The same	Total
YES	F	30	51	5	51	137
	R%	21.90	37.23	3.65	37.23	100.00
No	F	14	49	12	32	107
	R%	13.08	45.79	11.21	29.91	100.00
Total	F	44	100	17	83	244
	R%	18.03	40.98	6.97	34.02	100.00

The test results of the relationship between companies which have attended seminars, training, and workshops for R&D & Trend of investment during last three years are as a follows:

TESTING:	RESULTS :
Pearson chi2 (3) = 9.5457	Because Pr=0.023<0.05 (at 95% confidence) then we
Pr = 0.023	accept H(a)
likelihood-ratio chi2 (3) = 9.6539	There is relationship between attendance of seminars,
Pr= 0.022	training, WSH –R&D & trend of investments last three years
Crammer's V= 0.01978	V=0.01978 ∈ (+ or -) Less than 0.10, this association is very low
Gamma= 0.0338	G=0.0338<<1.0000 then there is a strong relationship
Kendall's tau-b = 0.0198	
Fisher's exact = 0.023	Here we reject the (H_0) and conclude that is a relationship between variables

The results from testing hypothesis 4 indicate that there is a positive relationship between companies which have attended seminars, training, workshops on R&D and positive trend of investment in the last three years. SMEs from Polog region believe that if they attend more training and workshops for R&D in the future, it will improve their entrepreneurial performance and will impact the overall entrepreneurial performance of the region.

Conclusion

According to the estimates, results and testing of the answers and feedback from questionnaires conducted for SMEs of the Polog Region in Republic of Macedonia, the research leads to the following conclusions:

There are good entrepreneurs in the Polog region who need support especially by public institutions as well as banks and contemporary forms of business support. In general, there are insignificant relationships between company categories of Polog region and all institutions which support entrepreneurship such as: banks, local and central government, economic chambers, technologic parks, business development centres and enterprise support agencies.

The economic chamber, BDC and ESA have a positive impact in supporting and assisting the development of SMEs. But unfortunately, the SMEs of Polog region do not have an adequate service satisfaction related to the services provided by BDC and ESA, even though they continue to receive services from them.

SMEs of Polog region which have had increasing investments in the past three years have received increased the services received by BDC, TP and ESA such as: seminars, training, and workshops. These activities are conducted in order to research and develop their company and to achieve a positive trend of their investments.

Universities, BDC, business start-up agencies, technologic parks should provide services according to the SME needs. This approach will create new opportunities for entrepreneurs and more chances to develop the existing or new companies. The entrepreneurs should understand that the relationship with contemporary institutions is meant to give them more benefits and profit.

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Appendix:

Table 5. *Thresholds of Enterprise Category EU/MKD*

Country	Enterprise category	Headcount	Turnover	Total balance sheet
EU	Medium-sized	< 250	€ 50 million	€ 43 million
	Small	< 50	€ 10 million	€ 10 million
	Micro	< 10	€ 2 million	€ 2 million
MKD	Medium-sized	50 → 249	€ 10 million	€ 10 million
	Small	10 → 49	€ 2 million	€ 2 million
	Micro	1 → 9	€ 50 thousand	€ 50 thousand

Source: SMEs EU Envoy Report 2005 and Company Law of MKD, author's design

Table 6. *DATA Describe*

Variable	Storage type	Display format	Variable label
var1	str22	%22S	Business Activity
var2	str6	%9S	Enterprise category
var3	str18	%18S	The reasons for opening of enterprise
var4	str22	%22s	Institutions which support your entrepreneurship
var5	str17	%17s	Service Satisfaction from Universities and ESA
var6	str27	%27s	Associations which needed to protect your interests
var7	str3	%9s	Attendance of seminars, trainings, workshops for R&D
var8	str22	%22S	Trend of investment in the past three years
var9	str3	%9S	Increasing the services received by BDC, SEEU T. Park and ESA

Table 7. *Category of Companies and Economic Chamber, BDC, ESA*

Enterprise category	Institutions which support the entrepreneurship		
	Economic Chambers	BDC&ESA	Total
Medium	1	0	1
Micro	10	39	49
Small	0	7	7
Total	11	46	57

Table 8. *Enterprises Category with Increasing Investments last 3 Years and BDC, TP & ESA*

Enterprise category	Increasing the Services received by BDC, SEEU Tech Park and ESA		
	YES	NO	Total
Medium	1	2	3
Micro	47	40	87
Small	1	9	10
Total	49	51	100

Co-integration Analysis between the Turkish Stock Market and its Balkan Hinterland Equivalents: Proof from the 2010-2015 Period

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Abstract: *The purpose of this study is to investigate whether there is a co-integration amongst (3) three Balkan countries; Bosnia Herzegovina, Macedonia and Turkey in relation to the German stock market (important for the Europe scale). For this purpose, the relevant stock market's weekly closing values (in the time series) were analyzed between the periods of September 2010 and August 2015. The long-term co-integrated relationship is analyzed by the Johansen Juselius Co-integration Test. The empirical results show that these three Balkan countries have a meaningful, but moderate relationship in reference to the stock markets. In addition, the German stock market has a more powerful effect on the Turkish stock exchange in comparison to the Bosnia Herzegovinian and Macedonian stock exchanges. This paper suggests that international investors can diversify their portfolios in these (3) three Balkan stock markets.*

Keywords: *The Balkans, Emerging Stock Markets, Indexes, Market Linkages, Co-Integration Analysis*

JEL Classification: *G15, O16*

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Introduction

The Balkans, located in the southeast portion of the European continent, is a region that has its own unique structure. Though being an important part of Europe, and having an important international place both historically and culturally, unfortunately, we cannot say the same from an economic point of view. Most especially, in financial terms, when compared to other parts of Europe, it has a quite small share. However, important developments have been observed in terms of the financial markets in the Balkan nations since 1980's.

Along with the liberalization process that occurred in these countries, the first and most important stocks and bonds exchange was established in Turkey in 1986 under the name of IMKB. Since 2013, it has continued its activities as the Borsa Istanbul. Another important stock exchange is the Athens Stock Exchange in Greece. Along with liberalization policies, it has experienced significant progress since the 1990's. Also one of the major stock exchanges in the Balkans is Romania's Bucharest Stock Exchange that experienced an important leap with the destruction of communism. These three countries both in terms of exchange trading volume and stocks traded are the most important stock markets in the Balkans.

The historical, cultural and humanistic ties with the Balkans are as important as its geographical, political and economic ones. Geographically, the Balkans forms the extension of Turkey to Europe. This has not only influenced the shaping the Turkish nation historically, but has also influenced its position as being a target for European Union membership. The common sharing of this aspect with all the regional countries is of vital importance for Turkey, thus raising its potential progression.

There are historically strong ties between Turkey and Balkan countries. Minor, cognate, coreligionist and relative members of society live in the Balkan countries and people originating from the Balkan countries are living in Turkey. There also are many important Turkish economic investments in the Balkan countries with respect to either quantitative aspects or volume. The previously mentioned Balkan countries have the characteristics of what can be called the "Hinterland of Turkey". In this study, we will investigate whether there is financial co-integration between Turkey with the Balkan hinterland countries and Germany or not. Bosnia Herzegovina and Macedonia have been chosen for this reason. In fact, the aim of this study was to investigate Albania and Kosovo, but due to the lack of transparency in their financial

markets, it was not possible to include them. In addition to these countries, Germany's financial market has also been added to this study due to its economic size and political standing as well as its historical interests in the Balkan countries.

Literature Review

From a literary perspective, there have been many studies documented regarding the securities exchange in the Balkan countries. Some of them are mentioned below:
In the study by Birau, the co-integration relationship was investigated between the Romanian Stock Exchange and the Greek Stock Exchange. The daily stock exchange index closing data for the period of January 2003 and December 2012 was investigated by the Granger Causation Method. Causation could not be determined for the first periods of January 2003 and December 2007, even though it was determined that there was a single direction effect between the Greek stock exchange and the Romanian stock exchange during the second periods of December 2007 and December 2012. (Birau, 2013).

In the studies of Birau and Trivedi, co-integration relationships were investigated between the Bucharest Stock Exchange and the Athens, Paris and Frankfurt Stock Exchanges. The daily stock exchange index closing data for the periods of January 2003 and December 2012 were investigated by the Granger Causation Method. Relationship and co-integration could not be found for the first periods of January 2003 and December 2007 between the Bucharest Stock Exchange and the Athens, Paris and Frankfurt Exchanges, even though it was determined that there was a single direction effect and co-integration between the Athens Stock Exchange and the Bucharest Stock Exchange for the second periods of January 2007 and December 2012. Co-integration between the Bucharest Stock Exchange and the Athens, Paris and Frankfurt Stock Exchanges were observed. (Birau and Trivedi, 2013).

In the study of co-integration between Croatia, Slovenia, Hungary, the Czech Republic, Poland, Germany and the middle and eastern European countries of Vizek and Dadic, it was determined that there is no co-integration between Croatia and the middle and eastern European country markets when determined by the Johansen Method for daily index data investigation during the periods of 1997 and 2005. (Vizek and Dadic, 2006).

In the study made by Papavassilou, co-integration between Montenegro, the European Union, and the USA plus 11 country markets were investigated by

Granger Causation Tests on data during the periods of March 2003 and September 2008. The existence of long-term balance was proven between the markets of Montenegro, the European countries and the USA. (Papavassilou, 2014).

In Tudor's study, the relationship between the stock markets of Central and Eastern European countries, (consisting of Russia, Poland, the Czech Republic, Hungary, Romania and Bulgaria) and the US markets were investigated during two periods including the periods before and after the global crisis. In this study, daily data from January 2006-March 2009 was analzed by Granger Causality. After the analyses, it was concluded that there was co-integration between the US market and the markets of the six Eastern European countries during the crisis, and that this relationship was stronger in comparison to the periods before and after the crisis. It was also concluded that co-integration ran in a sole direction from the US to these six countries. (Tudor, 2011).

Syriopoulos and Roumpis had revealed the relationship between the financial markets of the Balkan countries, but their correlation with developed countries was even higher. (Syropoulos and Roumpis, 2009).

In the study by Syriopoulos, the early European Monetary Union was examined. It was proven that mutual interaction increased between the stock exchanges of the Balkan countries and the eastern European countries especially after the establishment of the Monetary Union. The high levels of affiliation between the stock exchanges were affected by developed countries, the foremost of which was the USA stock exchange. (Syropoulos, 2007).

Stoica and Diaconașu's study included the investigation of the interaction between the Balkan country stock exchanges (such as Bosnia Herzegovina, Bulgaria, Croatia, Macedonia, Romania, Serbia and Slovenia) with Austria's stock exchange. It was observed that there is a long-term and mutually positive interactive relationship between the stock exchanges of the above-mentioned countries; however, they are more sensitive to Austria's Stock exchange. (Stoica and Diaconașu, 622).

In the study by Progonaru and Apostol, it was observed that in the relationship between the Romanian Stock Exchange and the other middle and eastern European stock exchanges, that the correlation of the Romanian Stock Exchange to the middle and eastern European stock exchanges is lower than the higher correlation with the stock exchanges of developed countries. (Progonaru and Apostol,2000).

In the study by Drakos and Kutan, the Turkish and Greek Stock Exchanges are mutually dependent on one other in short and long-terms and their sensitivity to the stock markets of developed counties was observed as high (Drakos and Kutan, 2001).

Samitas and Kenourgios's study, in which the exchanges between the Balkan countries themselves and the integration with the stock markets in the United States, Britain and Germany for the period including the years 2000/2006 were examined concluding that the exchanges of the Balkan countries among themselves and those of three developed countries were long-term based and strong (Samitas and Kenourgios, 2011).

Syllignakis and Kouretas used Johansen's Co-integration Tests where mostly Balkan countries were involved along with the central and eastern European countries. The relationship between the financial markets and the international markets, were found to especially increase with the European Union's enlargement process (Syllignakis and Kouretas, 2010).

In the study by Horvath and Petrovski, the common transactions of country markets between the developed countries and central European countries including the Czech Republic, Hungary, Poland and also the western Balkan countries such as Serbia and Macedonia were examined. By using the multi-variate GARCH models as analyzing the data exchanges, it was observed that the integration degree of the stock markets of the central European countries was much higher than the Balkan countries. On the other hand, the integration degree and correlation of the Serbian and Macedonian stock exchanges with the developed countries were at almost a zero level, while, the Croatian Exchange integration and correlation level with the developed countries markets was much higher than the Macedonian and Serbian stock markets. (Horvath and Petrovski, February 2012).

Onay's study of the European Union candidate countries regarding the long-term financial integration of the U.S. stock market were examined using the Johansen Co-integration Tests. It was determined that Bulgaria and Romania had the highest integration between the European Union and the U.S. stock markets when compared with Turkey and Croatia's integration into the European Union and the U.S. stock markets (Onay, 2006).

Guidi and Uğur examined the integration of the stock exchanges of the southeastern European countries with the developed ones evaluating the static and dynamic analysis of co-integration between the Romanian, Bulgarian, Slovenian, and Croatian markets with the German, British and U.S. stock market for the period of 2000–2013. It was identified that the new European Union member states tended to co-integrate with the stock markets of Germany and the U.K. whereas the same trend was not identified with the U.S. stock market (Guidi and Uğur, 2014).

In the study by Gradojević and Dobardžic, the regional stock market causalities and stock markets relationships of Serbian, Croatian, Slovena, Hungarian, and Germany were also examined and daily closing data was used for the related relevant stock exchange between October 4, 2005 and August 18, 2009. When the data was analyzed, it was identified that the Serbian exchange had a partial impact on the Hungarian and Croatian exchanges whereas the Serbian and Slovenian markets had mutual two-way causation (Gradojević andDobardžić, 2013).

In the study by Dobardžic and others, the financial markets and joint economic movements of emerging and developed countries were examined. The Serbian Exchange together with the German, Hungarian, Croatian and Slovenian markets were also discussed for the periods of 2005 – 2009. Granger Causality Tests were used in this study and it was concluded that there was a significant relationship between the Slovenian and Croatian exchanges similar to the Serbian and German stock markets, with the Serbian and German Stock Exchanges proving to have the highest correlation (Dobardžic, Dobardžic and Brničanin, 2012).

Patev and Kanaryan's study examined the behavior of stock exchanges and their characteristics. The daily values of Greek, Turkish and Romanian stock markets were also observed for the period between September 22, 1997 and May 31, 2002. As the data was analyzed in this VAR model study, it was understood that there was neither a significant relationship nor a proper integration between the stock markets of these three Balkan nations. A further result indicated that the Turkish stock market had the highest market risk, while the Greek stock market's volatility risk was very high and the Romanian stock exchange indicated the least open-tendency stock market regarding external influences. It can be assumed that the Turkish and Greek have the least stock market integration in contrast to the Romanian stock exchange that is entirely non-integrated, meaning that they are completely closed off from external influences. This is an interesting situation. (Patev and Kanaryan, 2002).

In the studies by Samitas and others, the integration of the Balkan countries' rising stock markets and the behavioral properties were analyzed along with the relationship amongst themselves and with advanced markets. In this study, daily closing data of the Romanian, Bulgarian, Serbian, Macedonian, Turkish, Croatian and Albanian, Greek, U.S., German and U.K. markets were analyzed. Johansen Co-integration Tests were used. The result of the analysis indicated that there was a meaningful and positive direction towards a strong relationship between the Greek-Romanian, Bulgarian and Serbian-Macedonian exchanges, whereas there was a strong and positive relationship observed between the German stock exchange and the Croatian-Turkish stock exchange with Albania (Samitas, Kenourgios and Paltalidis, 2008).

In the study by Karagöz and Ergun, the integration of the stock markets between the Balkan countries are discussed for both the Bulgarian, Greek, Turkish, Croatian and Romanian markets and also for the markets of the developed countries such as the U.S., Britain and Japan. Daily closing values were observed between the dates of January 2, 2006 and March 31, 2009 and once again, Johansen Co-integration Tests were used. When the data was analyzed, it was concluded that there is a two-way relationship between the stock markets of the Balkan countries. The Turkish stock exchange had the lowest interaction and the British stock exchange being the most developed, had the highest effect on these stock exchanges markets (Karagöz and Ergun, 2010).

Data, Methodology and Scope of Research

In this study, the aim was to determine whether there exists financial co-integration between Turkey and the Balkan hinterland countries and Germany or not. Bosnia Herzegovina and Macedonia were specifically chosen for this reason. In fact, Albania and Kosovo were intended to be investigated, however, for reasons of the lack of transparency in their financial markets, unfortunately, it was not possible to include them. In addition to these countries, Germany's financial market has been added due to its economic size, its political standing and its important historic interests with the Balkan countries.

In this context, the indexes used are: for Bosnia Herzegovina the SASE 10 stock exchange 10 index, for Macedonia the MIB 10 index, for Turkey the BİST 100 index and for Germany the DAX index of the period between September 2010 and August 2015. Weekly closing data was investigated. The idea of selecting the 2010-

2015 period came about because this period reflected the actual current status of last five years. The data was obtained from Bloomberg and was analyzed with Eviews 7.1 packaged software. In the analysis, serial graphics, a correlation analysis, an ADF unit root test and Johansen Co-integration Tests were used.

Mentioned time series values were taken. The first issue to be considered for the time series analysis was the subject of the static variables. Because of economic and financial variables, time series often consist of trends or seasonality, and this could lead to the violation of the principles for being stable of series, (Yurdakul, 2003). Stability can be defined as the independence of the undertaken time series average and the variances from the time.

In the absence of a stable of time series, estimated econometric models can provide misleading results. For this reason, in the time-series econometric analysis, a unit root test (test of stillness) was applied mostly to the time series.
Therefore, in this study, by using the Augmented Dickey-Fuller (ADF) Test (E-views, with the help of the program), we determined whether the time series included unit root (stillness) or not.

Table 1: *Descriptive Statistics for Indexes*

	Minimum	Maximum	Mean		Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Bosnia	636.40	1118.12	793.2591	7.21760	116.60392	13596.474	1.305	.151	.641	.300
Macedonia	1556.96	2771.38	1931.2657	18.70629	302.20932	91330.473	1.162	.151	.333	.300
Turkey	50182.53	91924.84	71011.7848	617.41741	9974.68354	99494311.784	-.032	.151	-1.006	.300
Germany	5189.93	12874.73	8206.0667	106.33193	1717.84483	2950990.873	.505	.151	-.631	.300

Source: Authors' own work

Table 2: *Correlation between Germany, Bosnia and Herzegovina, Macedonia and Turkey Stock Market Indexes*

		Bosnia	Macedonia	Turkey	Germany
Bosnia	**r**	1	0,911	-0,448	-0,534
	p		0,000	0,000	0,000
Macedonia	**r**	0,911	1	-0,531	-0,576
	p	0,000		0,000	0,000
Turkey	**r**	-0,448	-0,531	1	0,749
	p	0,000	0,000		0,000
Germany	**r**	-0,534	-0,576	0,749	1
	p	0,000	0,000	0,000	

Source: Authors' own work

As seen in the correlation table, there is a positive and strong correlation between Bosnia Herzegovinian and the Macedonian stock markets (r = 0,911). There is a negative correlation between the Bosnia Herzegovinian and the Macedonian markets with the German and Turkish markets. While the degree of correlation between the German and Bosnia Herzegovinian market closing prices was medium and negative (r=-0,5345), the correlation between the German and Macedonian market closing price has a medium level degree (r=-0,576) As for the correlation between the German and Turkish market closing prices, the correlation is positive and has a high degree (0,749) All three coefficients of correlation are statistically significant. (p< 0,01)

Figure 1: *Graphics of DAX Index*

Figure 2: *Graphics of the MIB 10 Index*

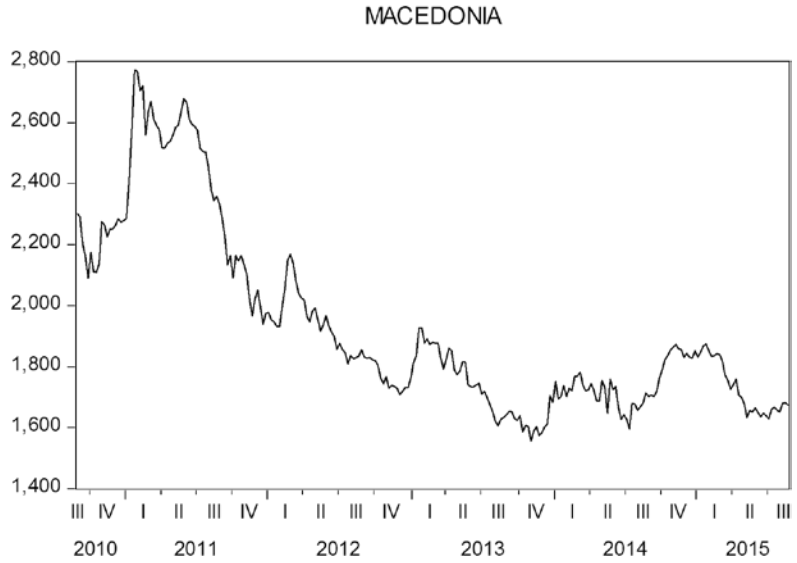


Figure 3: *Graphics of the BIST–100 Index*

Figure 4: *Graphics of the Sarajevo 30 Index*

When the graphics above were analyzed, it can be said that the German and Turkish stock exchange values had similar courses. Macedonian and Bosnian markets can be said to have similar courses as well. When the graphics were generally evaluated, suspicion that the series may not have been stationary was aroused. Stationarity of the series were then analyzed with the Dickey-Fuller Method and the test results are given below.

In time series analyses, the time series used in model must first be tested. A time series is stationary if it does not change over time and has mutual variance between the two terms depending only on the distance between the two periods, not on the period in which this mutual variance is calculated.

Augmented Dickey–Fuller (ADF) Unit Root Test

Dickey-Fuller is a test used to determine whether unit root exists (whether the series is stationary or not) or not in an observed series. There are three equation types Dickey-Fuller has propounded;

Dickey–Fuller equation without constant or trend: $\Delta Yt = \gamma Y(t-1) + ut$ (1)

Dickey–Fuller equation without constant or trend:$\Delta Yt = a+\gamma Y(t-1) + ut$ (2)

Dickey–Fuller equation without constant or trend: $\Delta Yt = a+bt+\gamma Y(t-1) + ut$ (3)

There are two hypotheses used to test the existence of unit root. These are;
H_1: $\gamma<0$ ($p<1$) (there is no unit root in the series.) (The series is stationary.)
H_0 : $\gamma=0$ ($p=1$) (there is a unit root in the series.) (The series is not stationary.)

Empirical Results and Discussion

Table 3: *ADF Unit Root Test Results*

	C			C+T		
	ADF-t Statistic	%5 Mac Kinnon	Possibility	ADF-t Statistic	%5 Mac Kinnon	Possibility
Bosnia Herz.	-1.07 (1)	-2.87	0.72	-1.82 (1)	-3.42	0.69
Germany	-0.96 (1)	-2.87	0.76	-2.30 (1)	-3.42	0.43
Macedonia	-1.37 (1)	-2.87	0.59	-1.93 (1)	-3.42	0.63
Turkey	-1.95 (0)	-2.87	0.30	-2.49 (0)	-3.42	0.32

1. Difference						
	C			C+T		
	ADF-t Statistic	%5 Mac Kinnon	Possibility	ADF-t Statistic	%5 Mac Kinnon	Possibility
Bosnia Herz.	-13.90 (0)	-2.87	0.00	-13.87 (0)	-3.42	0.00
Germany	-19.13 (0)	-2.87	0.00	-19.10 (0)	-3.42	0.00
Macedonia	-14.06 (0)	-2.87	0.00	-14.03 (0)	-3.42	0.00
Turkey	-15.88 (0)	-2.87	0.00	-15.85 (0)	-3.42	0.00

** Values inside the parentheses state lagged values determined in accordance with Schwarz criterion*

It can be seen that all variables are not stationary in table values because ADF-t statistic values are smaller than MacKinnon critical values with a 5 % significance level in terms of absolute value. According to a new unit root test conducted by first differenced variables, it has been detected that all series are stationary in the first difference. The fact that all series are stationary in the first difference indicates the possibility of a co-integration relationship between the series.

Graphics of Stationary Series

Figure 5: *Stationary Series of DAX Index*

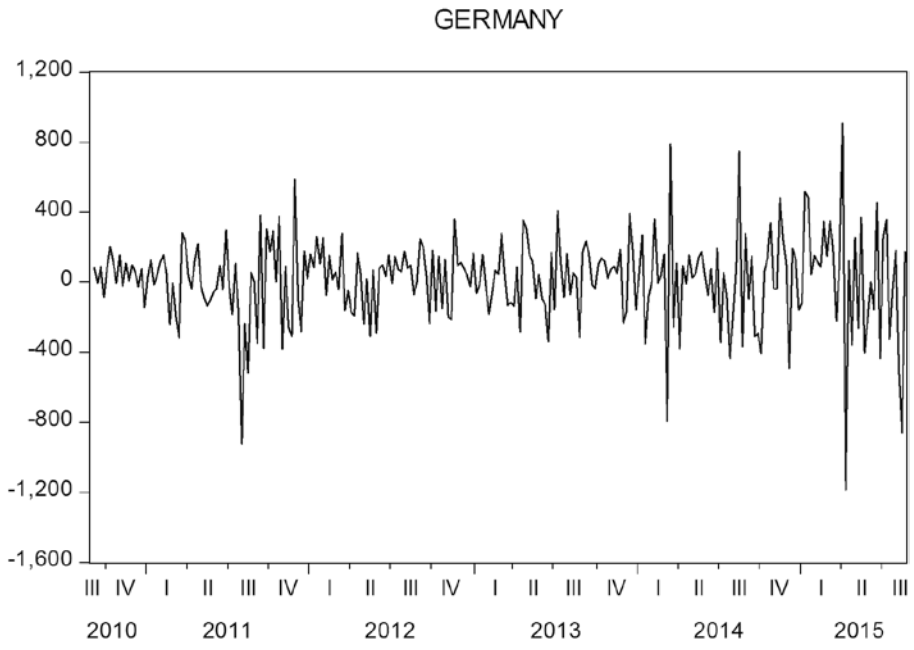


Figure 6: *Stationary Series of Sarajevo 30 Index*

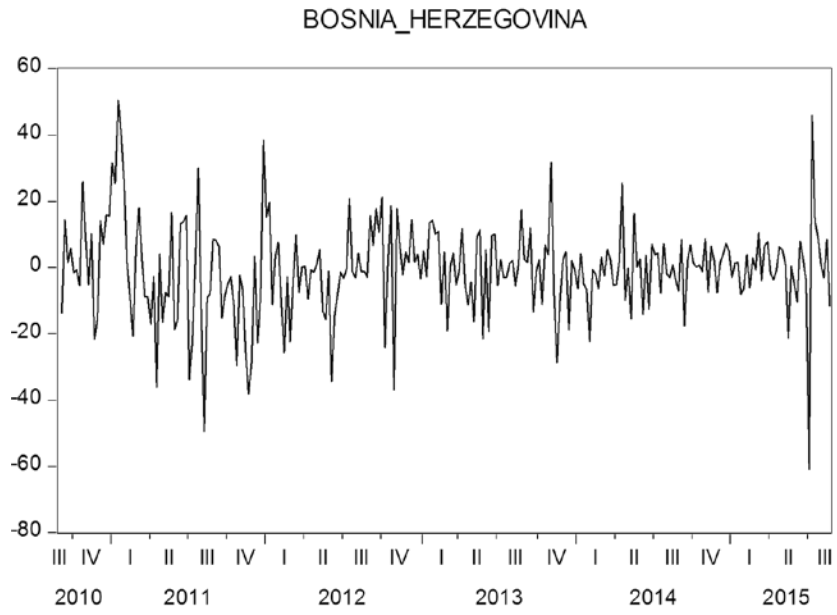


Figure 7: *Stationary Series of MIB 10 Index*

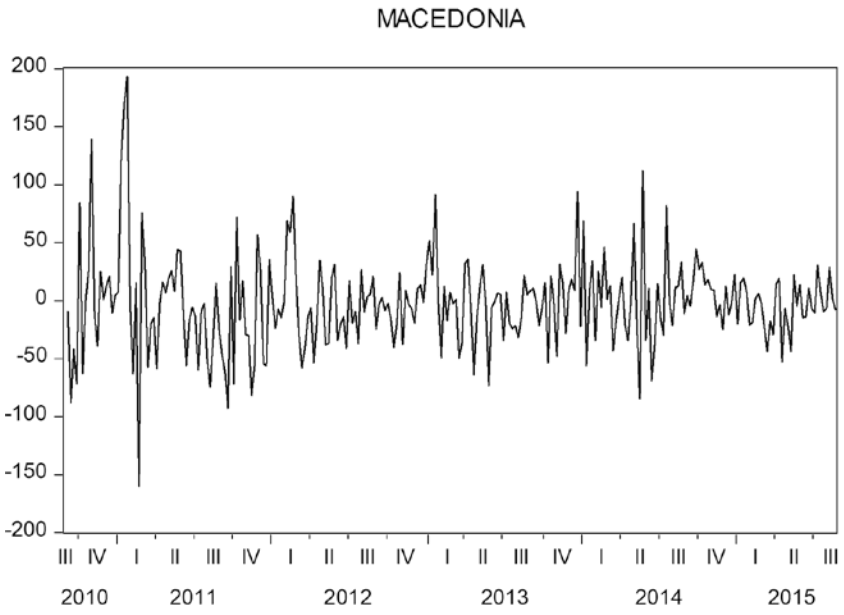
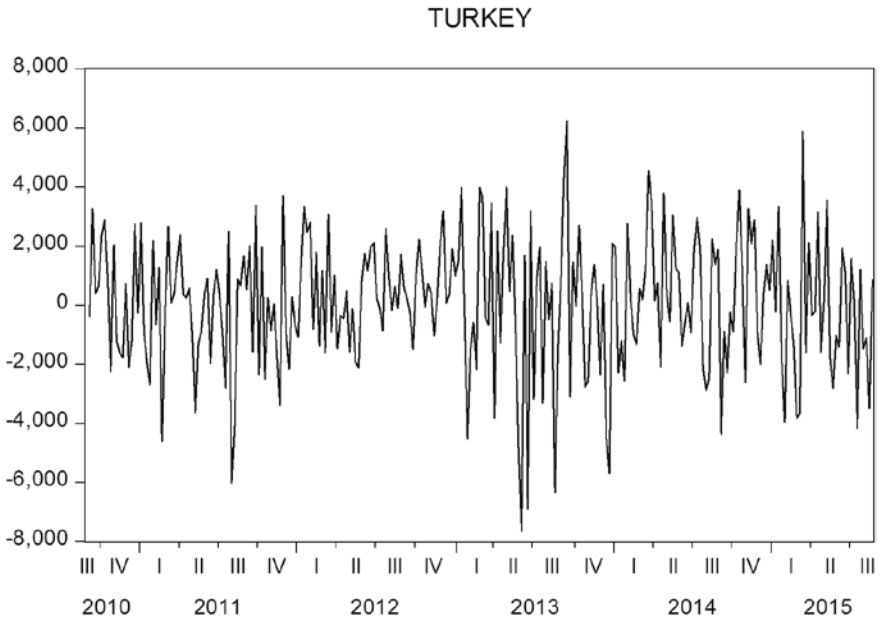


Figure 8: *Stationary Series of BIST–100 Index*



The relationship of co-integration was initiated by Engle and Granger (1987) then developed by Johansen (1988) and Johansen and Juselius (1990). Engle–Granger and Johansen's co-integration methods were applied for investigation of the long-term relations between time serials. Engle and Granger propose that serials should be integrated on the same level in order to obtain co-integration between the serials. If a serial is stable without taking the first gap, it is called stable within a serial level. In other words the integration level of serial is zero. If it is taken as d gap, that serial is integrated on d level. In this context, if the X and Y two time serials are stable on the same level, it means there is co-integrative relation. In this environment, the stability of serials has been investigated by ADF Root Tests as the first phase of Johansen Co-integration Method of this study.

After the necessary pre-tests for co-integration, VAR analysis was conducted to determine the optimum lagged value, and its results are given below. Optimum lagged values have been determined within the framework of the Schwarz and Akanke information criteria.

Table 4: *Optimum Lagged Values*

	AIC	SC
TURKEY-BOSNIA AND HERZEGOVINA	0	0
TURKEY- MACEDONIA	1	1
TURKEY-GERMANY	0	0

As seen in the table, optimum lagged values in accordance with both information criteria.

Table 5: *Johansen-Juselius Co-integration Test Results*

	H_0 Hypothesis	Trace Statistic	Maximum Eigenvalue
TURKEY-BOSNIA AND HERZEGOVINA	r=0 r≤1	184.26 (0,00)	100.18 (0,00)
TURKEY- MACEDONIA	r=0 r≤1	190.08 (0,00)	103.30 (0,00)
TURKEY-GERMANY	r=0 r≤1	213.89 (0,00)	117.86 (0,00)

Dual co-integration relationships between Turkey and Bosnia, between Macedonia and Germany can be seen in the table.

The H_0 hypothesis that there is no co-integration relationship amongst Turkey and Bosnia Herzegovina, Macedonia and Germany is rejected. ($p< 0,01$)

In this regard, it is concluded that there is a co-integration relationship amongst Turkey and Bosnia Herzegovina, Macedonia and Germany closing prices.

Conclusion

In this study, the relationships of Balkan countries such as Turkey, Bosnia and Herzegovina and Macedonia were investigated in terms of stock exchanges and their interaction with each other. Being one of the most important in terms of the European Union, Germany's stock exchange DAX index effects on these three

countries was investigated. For this purpose, time series of the Sarajevo 10 index, the MIB 10 index and the BIST–100 index data were used and thought to representative of the stock exchanges of these countries.

The review period of the data was the weekly closing values between September January 2010 and August 2015. The Johansen Method was used for co-integration analyzes.

Upon analysis of the data, there is a statistically significant and strong ($p < 0.01$) relationship of % 91,1 between the Macedonian and the Bosnia Herzegovinian stock exchange, if one increases, the other one also increases. There is a statistically significant ($p < 0.01$) relationship of % 44,8 between the Turkish stock exchange and the Bosnia Herzegovinian exchanges. If one increases, the other one decreases. There is a statistically significant ($p < 0.01$) relationship of % 53,4 between the German stock exchange and the Bosnia Herzegovinian exchange. If one increases, the other one decreases. There is a statistically significant ($p < 0.01$) relationship of % 53,1 between the Turkish stock exchange and the Macedonian exchange. If one increases, the other one decreases. There is a statistically significant ($p < 0.01$) relationship of % 57,6 between the German stock exchange and the Macedonian exchange. If one increases, the other one decreases. There is a statistically significant ($p < 0.01$) relationship of % 74,9 between the Turkish stock exchange and the German exchange. If one increases, the other one also increases. In addition, there is a co-integrative relationship between the Turkish and Bosnia Herzegovinian, Macedonian and German closing prices.

As seen, there is a significant relationship between the Balkan countries and Turkish stock exchange. The Turkish stock exchange has the highest co-interaction with the German stock exchange. This was actually expected. This is because in terms of transaction volumes, traded stocks, sophistication and size of the financial markets, it is clear that the Turkish market has a more mature level in comparison with the other sister country markets. In addition, German and Turkish investors can hedge their risks by investing in Macedonia and Bosnia & Herzegovina because of the negative correlation between their own stock markets and these Balkan stock markets. Additionally, international investors can diversify their portfolio in these stock markets.

The loosening of investigation on capital flows, stock buying and selling methods, the extraordinary speed of telecommunication, varieties on financial instruments and

the increase in the global investments of multinational companies, are determining the country's financial markets relations.

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Personality Characteristics and Emotional Intelligence Levels of Millenials: A Study in Turkish Context

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Abstract: *The purpose of the study is twofold. The first purpose of the study is to investigate the relations between personality characteristics and emotional intelligence of the Millennials. Costa and McCrea's Big Five Personality Inventory (IPIP-NEO) is used to measure the personality characteristics of the millenials. Emotional intelligence dimensions are measured by Wong and Law emotional intelligence scale (WLEIS). Secondary purpose of the study is to find self-evaluations of the Millenials related with their characteristics. Roger's Q-Sort Scale is used to find out Millenials self perceptions. An advantage of the Q-Sort Scale is that it offers straightforward assumptions about the underlying structure of a concept within demographical segments. Results reveal that use of emotion is positively correlated with conscientiousness whereas regulation of emotion is negatively correlated with Neuroticism. Furthermore, personality characteristics have effects on emotional intelligence dimensions. The effects are much more significant for regulation and use of emotions dimensions. These dimensions are assumed to be important determinants of performance within organizations so it is important to analyze the personality constructs associated with them. Depending on their self-perceptions, millienials evaluate themselves relatively high on positive traits (e.g. honest, out-going, etc.) and low on negative traits (e.g. unhelpful, dishonest, etc.). Regarding personality characteristics, they evaluated themselves highest in openness and lowest in neuroticism. Millenials will be the dominating workforce for the upcoming years, so if they are willing to establish high performance relations, managers should better understand Millenial characteristics and perspective.*

Keywords: *Millenials, Personality Characteristics, Emotional Intelligence*

JEL Classification: *J13, M14, Z13*

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Introduction

Emotions can be explained by psysiological changes in the body, cognitions, learning processes, personality, social relations, experiences, psychological conditions, cultural practices, and are grounded in daily life (Strongman, 2003). Emotional intelligence is described as monitoring and evaluating one's own emotions, monitoring and evaluating emotions of others, regulating and using them (Hartel, et al. 2005). Whereas, cognitive intelligence is associated with the factual information about people, things, events, time, and place, emotional intelligence deals with the antecedents and mutual relations between these aspects of life (Terrell & Hughes, 2008). Personality can be defined as distinctive and stable ways of behavior (Ewen, 2010). Emotions and personality are known to be intertwined with each other. Some researches in the field (e.g. Caruso et al., 2002; Ghiabi & Besharat, 2011) have revealed that, there are significant relations between personality dimensions and emotional intelligence dimensions. This study aims to search this relation on millenials. Twenge (2009) discussed that the generation a person belongs to, can be slightly more influence on the person than his/her family. She added that it is essential to recognize the own realities of each and every generation within various contexts (Twenge, 2009). Millenials in Istanbul, Turkey are subjects of this research. However; the findings may be relevant in other cultures's generations within the limitations of specific historical, social, and economic conditions.

Theoretical Background

Assesment of Personality

Personality has been studied thoroughly throughout the years and researchers have stated theories about personality. The psychodynamic perspective explains the effect of the unconscious, below the surface on the structure and development of personality, whereas the humanistic perspective underlines the positive human nature and self-actualizing capability on the structure and development of personality. The trait approach emphasizes the effect of conscious, above the surface and behavior patterns on the structure and development of personality, whereas the behaviorist theory focuses on the effect of environment and learning in shaping personality. Cognitive approach emphasizes the effect of mental processes on the structure and development of personality (Ewen, 2010). Although these approaches have some commonalities in themes such as unconscious, psychopathology, etc., they explain these themes and personality in different ways which may complement each other. In this study the contribution of trait approach to personality and

Roger's, one of the well known names of humanistic approach, with his Q-sort test, and the contribution of behaviorist approach with its emphasis of the environment on human behavior, specifically from the cohort's effect on personality characteristics of millenials can be understood. However, the contributions of psychodynamic perspective and cognitive perspective are not excluded in the sense that although they can not be measured in this research, they implicitly exist.

Related with trait approach, many researchers in the field have searched for the personality factors and their measures. Especially the measure of Big Five that is composed of five factors, namely, extraversion, agreeableness, conscientiousness, neuroticism, and openness is accepted as valid and reliable in various cultures (McCrea and Costa, 1997). Personality dimensions show disposition to coherent patterns of thoughts, feelings, and actions (McCrae, 2002). Revised Neo Personality Inventory assesses six specific lower level traits (facets) for each of the five function spheres or combinations of subset of attributes (domains), has been widely used (Costa & McCrae, 1995). Extraversion refers to being highly active, social and having positive feelings. Openness to experience represents the tendency to develop oneself in intellectual ways and to experience new ideas, things, people, etc. Agreeableness refers to kind, helping and thoughtful behavior. Conscientiousness is associated with determination, self-control, and achievement orientation. Neuroticism can be defined as the tendency to feel nervous, touchy, and bad-tempered (Furnham et al., 2003). In a study, the relationship between NEO-PI-R and MBTI that is derived from Jung's types and developed by Myers was examined. According to the results, NEO-PI-R's extraversion was correlated positively with MBTI's extraversion and negatively correlated with introversion. MBTI's sensing-intuition type explains how people perceive information and openness was negatively associated with achieving information through senses and MBTI' sensing and positively associated with discovering possibilities that are unobvious and MBTI's intuition. MBTI's thinking-feeling type describes how people judge information. Agreeableness was found out negatively related with analyzing and MBTI's thinking and positively related with experiencing emotions and MBTI's feeling. MBTI's judging-perceiving type signifies how people comprehend and work with information. Conscientiousness was positively correlated with reaching conclusions and MBTI's judging and negatively correlated with becoming aware and MBTI's perceiving. MBTI's extraversion-introversion type describes how mental orientation toward life is. Neuorticism was negatively related with MBTI's extraversion and positively related with MBTI's introversion (Furnham et al., 2003). Lately, The Revised Neo, modified in a more readable way, has been called as NEO-PI-3. It was

found out to be psychometrically better even than sound NEO-PI-R and applicable to adolescent sample (McCrae, Costa & Martin, 2004). In this study, IPIP-NEO with 120 statements is used. This short verison of IPIP-NEO has been found out valid and reliable (Johnson, 2014).

Emotional Intelligence

Emotions and motivation have the same Latin root of "move". Not suprisingly, emotions influence people's behaviors, choices, etc. People generally decide between moving toward to pleasure, moving away from pain, moving against obstacles, and stopping as focusing on and giving attention to what one is doing. Stopping is also a tactic that animals such as rabbits use to survive. Stopping requires a high degree of emotional intelligence to control automatic responses and impulses. People may develop stopping through meditation (Terrell & Hughes, 2008). Approaching from another perspective, deriving from the basics of relational emotive theraphy emotions are cognitions derived from one's assessments of social environment that lead to certain feelings (Strongman, 2003).

Deutschendorf (2009) provided historical background of emotional intelligence research. Researchers have worked on the types of intelligence since 1900s. BarOn developed one of the first valid tests in the field. In 1990 John Mayer, Peter Salovey, and David Caruso developed ability based emotional intelligence test. In 1995 Daniel Goleman published his book "Emotional Intelligence" that gained public interest and became a bestseller. In 1998, Goleman published his second book "Emotional Intelligence in the Workplace" which strenghtened the success and understanding of the concept (Deutschendorf, 2009).

Salovey and Mayer (1990) view emotions as organized responses, crossing the boundaries of many psychological subsystems, including the physiological, cognitive, motivational, and experiential systems. Emotions typically arise in response to an event, either internal or external, that has a positively or negatively valenced meaning for the individual. Emotions can be distinguished from the closely related concept of mood in that emotions are shorter and generally more intense. Emotional intelligence is not about behaving in good manner or behaving accordingly only to one's own intentions (Goleman, 1998). Emotional intelligence refers to recognizing one's own emotions, emotions of others and managing emotions in social relations (Goleman, 1998). Goleman mentioned five main emotional and social abilities as self-awareness, self-regulation, internal motivation, empathy, and social skills (Goleman, 1998).

Emotional intelligence has also been researched in Turkish literature. Sahin et.al (2009) analyzed relations between emotional intelligence, stress tolerance and Type A Personality. Findings revealed that emotional intelligence is negatively correlated with Type A personality and positively correlated with stress tolerance. İsmen (2001) analyzed the relations between emotional intelligence and self evaluated problem-solving skills and specified a positive correlation between these concepts. Erkus and Gunlu (2008) found positive relations between emotional intelligence and dimensions of transformational leadership. Karahan and Yalcin (2009) examined the effect of emotional intelligence skills training program on emotional intelligence skills improvement by pretest-posttest design. Emotional intelligence was measured by Hall's self-evaluation scale including emotional awareness, managing emotions, self-motivation, empathy, and coaching other people's emotions dimensions. The study revealed that the program was indeed useful for developing emotional intelligence skills both in short and long-terms (Karahan & Yalcin, 2009).

Personality and Emotional Intelligence

In literature, there have been studies that investigated the relationships between personality dimensions and emotional intelligence. Ghiabi and Besharat (2011) found that emotional intelligence is positively related with extraversion, openness, agreeableness, and conscientiousness, negatively related with neuroticisim. Furthermore, emotional intelligence was positively predicted by extraversion and negatively predicted by neuroticism. Extraversion is explained as an attribute, which eases experiencing pleasure and having positive emotions, with the effect of emotional intelligence, and it will lead to high quality relationships (Ghiabi and Besharat, 2011). Caruso, Mayer, and Salovey (2002) mentioned that ability based emotional intelligence measures are distinguishable from the personality measures in the sense that they measure an ability, a kind of intelligence. In their study they used multi factor emotional intelligence scale and 16 PF. The results showed that emotional intelligence positively correlated with sensivity primary factor and extraversion global factor (Caruso et al., 2002). Sudak and Zehir (2013) analyzed the relations between emotional intelligence, personality types and job satisfaction. Their findings have represented significant correlations between all dmiensions of personality and emotional intelligence. Highest positive correlation was between agreeableness and other emotional appraisal. Although personality and emotions have been investigated in literature, integration of the generation cohort to these dimensions is relatively few. Petrides et al. (2007) investigated the relation between personality characteristics and emotional intelligence. Their sample mean age was 25

and considered to be within the millennial cohort. They found significant relations between personality characteristics and emotional intelligence. Bergman et al. (2011) analyzed the relation between narcissism and social network usage of the millennial generation. Narcissism was not found to be as the main predictor of social network usage and discussed that millennials' social network usage was not solely about attention seeking or maintaining self-esteem (a common stereotype for "Generation Me"), but also a means of connecting and communicating. Despite all common beliefs a comprehensive investigation is needed for milennial generation.

Millenials as a Generation Cohort

According to researchers, macro-level social, political and economic events that occur during the pre-adult years of a cohort result in a generational identity comprising a distinctive set of values, beliefs, expectations and behaviors. These values, beliefs, expectations and behaviors remain constant throughout a generation's lifetime (Jackson et al., 2011).

As generally accepted in the literature four major cohorts exist: Veterans were born between 1920 and 1945; Baby Boomers between 1946 and 1964; Generation X members were born between 1965 and 1980 and Generation Y between 1981 and 2000. Each generation has its own characteristics due to different economic, social, and political world events of their times. Great Depression and World War II in veteran's generation, Civil Rights Movements and Cold War in baby boomers' generation, Challenger explosion and Fall of Berlin Wall in Xers generation, and intense use of computers and multiculturalism in Y generation are among the striking events of their times (Zemke, et al., 2000). Regarding the general characteristics of Millenial generation, the most striking is that they are globally connected through Internet and social media (Ordun, 2015).

When the literature about millennial cohort is analyzed, it seems that in different continents different aspects of the millenials' attributes gained more attention for studying. In US the researches on millenials have concentrated on topics such as social media (e.g. Nusair et al., 2013), consumers (e.g. Wolf et al., 2005); in Europe main topics of research mostly focused on culture (e.g. Mihelcea et al. 2013) and communication and multilingualism (e.g. Sundberg, 2013); in Asia studies mostly focused on negotiation (e.g. Vieregge & Quick, 2010) and hospitality management (e.g. Kong et al., 2015); in Australia, domestic tourism (e.g. Gardiner et al., 2014); in Africa, technology (e.g. Dlodlo & Mahlangu, 2013).

Turkey is a transcontinental country between Europe and Asia. According to the historical perspective, post Republican era in Turkey witnessed important socio political events. Taking its roots from 1960s onwards, the political crisis and instability resulted in 1980 military coup (Kaya Ozcelik, 2011). Being sensitive to changes and developments in the world and specifically in Western societies, Turkish science and philosophy has also been affected. After 1980s, poverty, development, diversity and identity have mostly been emphasized. After 1990s globalization and postmodernity started to determine the sociologic agenda (Ozcan, 2009). Thus, the desired and undesired effects of the historical conditions on that current generation and the following generations have become inevitable. Depending on the problematic situations before 1980s upcoming generations were thought to be not interested in politics however recent events signified that Y generation university students have expressed their sociopolitical preferences through social media (Cakar Mengu, et al., 2015). Yuksekbilgili (2013) investigated the characteristics of millenials revealed in Turkey. The sample consisted of 603 millenials in Turkey and the findings revealed that they trust their technological abilities more than listening, effective communication, teamwork, and time management abilities. Millenails thought that they don't have skills for managing communication with difficult people especially as they define themselves as impatient. Although they were not highly committed to their organizations they were willing to work more in order to get an early promotion. They also favor online shopping (Yuksekbilgili, 2013). Another study with a sample of 1247 people, aimed to identiy the age interval of Y generation in Turkey. The birth dates have ranged from 1983 to 1995 for millenials in Turkey, different from the generally accepted 1980-2000 interval. The difference was explained with the latency in dispersion of technological advances and internet use in Turkey (Yuksekbilgili, 2015).

The millenials in Bosnia and Herzegovina have had different historic, socio economic conditions and so experiences than rest of Europe. Röper and Gavranidou (2003) mentioned that after the Bosnian War (1991-1995), healing trauma, providing trainings, and counseling for coming generations have become important issues. Eder (2014) also stated the war's negative socioeconomic consequences such as forced migration and financial difficulties and negative effects on youth education.

All in all, Y generation is expected to be involved in a diverse working environment. Diversity refers to varied attributes regarding demographics, psychological conditions, knowledge, values, skills, interests, and experiences (Landy and Conte, 2007). Deriving from generational diversity, the clash of values and views are more

visible in workplaces where multigenerations work together. Being aware of the fact that people may have different generational backgrounds, this may serve as barriers regarding stereotypes. Especially when there is uncertainity and crisis, conflict shows itself as tension and understanding generational differences may bridge the gaps (Zemke, et al., 2000).

Hypotheses of the Study

The main assumption of the study focuses on the intercorrelations of the dimensions. Dimensions of Emotional Intelligence and their correlates with Big 5 personality traits are investigated. In addition, millenials' self-perception is explored by Roger's Q-Sort scale. As it was mentioned before, some personality traits (i.e. extraversion, neuroticism) have been found closely associated with emotional intelligence. Accordingly, the hypotheses are stated below:

H1. Emotional intelligence dimensions of Millennials are correlated with main personality attributes.

The main dimensions of emotional intelligence defined as self-emotional appraisal, other emotional appraisal, regulation of emotions and use of emotions. Regression analysis has been computed to find out personality determinants of each emotional intelligence dimension.

H2. Emotional intelligence dimensions are influenced by personality traits.

In addition, Millenials self-perception was explored by Roger's Q-Sort scale.

Methodology

Sample

The sample consists of 237 undergraduate students in Turkey, Istanbul. Since Istanbul has a cosmopolit structure, it is to a certain extent representative for Turkey. According to the demographics 118 females and 119 males answered the questionnaires. The participants are from three public universities in Istanbul; Bogazici University, Marmara University, and Istanbul University.

Measures

Emotional intelligence is measured using the 16 items self-report Wong and Law (2002) Trait Emotional Intelligence Scale (WLEIS). Emotional intelligence measure has 4 dimensions and 4 items for each as self emotional appraisal dimension (I have a good sense of why I have certain feelings most of the time) others' emotional appraisal (I am a good observer of others' emotions), regulation of emotions (I am able to control my temper and handle difficulties rationally), and use of emotions (I set goals for myself and then try my best to achieve them) (Wong & Law, 2002).

Personality characteristics were assessed by the IPIP-NEO-120, which is the short form of IPIP-NEO by Goldberg and based on Costa and McCrea's NEO-PI-R (1992) (Johnson, 2014). IPIP-NEO-120 has 5 domains, which consist of 6 facets with 4 items for each facet. Neuroticism domain includes anxiety, anger, depression, self-consciousness, immoderation, and vulnerability facets. Extraversion domain consists of friendliness, gregariousness, assertiveness, activity level, excitement seeking, and cheerfulness facets. Openness to experience domain includes imagination, artistic interests, emotionality, adventurousness, intellect, and liberalism facets. Agreeableness domain consists of trust, morality, altruism, cooperation, modesty, and sympathy facets. Conscientiousness domain includes self-efficacy, orderliness, dutifulness, achievement-striving, self-discipline, and cautiousness facets. The scale has showed strong psychometric properties (Johnson, 2014). Q Sort is a test of congruence between perceived and ideal self and Rogers, one of the well known names of humanistic perspective, (1961) used this test in psychotheraphy process of their clients. 24 adjectives have been used in order to reveal out only their self-evaluations. The scales are measured on a 5-point Likert-type scale ranging from 1 (totally disagree) to 5 (totally agree). The short definitions of the dimensions are presented in the table 1.

Table 1: *Definitions*

Emotional Intelligence Dimensions	Definition
Self Emotional Appraisal	Understanding one's emotions
Other Emotional Appraisal	Observation & sensitivity to others' emotions
Regulation of Emotions	Control, adjust emotions & soothe oneself
Use of Emotions	Use emotions in constructive ways
Big Five Personality Traits	**Definition**
Neuroticism	Have negative feelings & feel threatened
Extraversion	Feel enthusiasm in most relationships
Openness	Feel pleasure with various experiences
Agreeableness	Have kind & understanding relationships
Conscientiousness	Be persistent & control impulses

∗[i]

∗[ii]

Analysis and Results

Mean scores and standart deviations are calculated for either of the inventory dimensions.

Table 2: *Mean Scores and Std. Deviations of Emotional Intelligence Dimensions*

Emotional Intelligence Dimensions	Mean	Std. Deviation
Self Emotional Appraisal	3,71	0,71
Other Emotional Appraisal	3,72	0,68
Regulation of Emotions	3,37	0,86
Use of Emotions	3,58	0,71

Self-emotional appraisal and other emotional appraisal have the highest mean scores. While self-emotional appraisal is related with awareness of one's self-emotions, other emotional appraisal is related with feeling empathy for others. While regulation of emotions is mostly related with controlling the urges instead of driven by them, use of emotions is associated with motivation and self-efficacy. The lowest mean score that millennials ranked themselves among all dimensions is the regulation of emotions.

Table 3: *Mean Scores and Std. Deviations of Big Five Personality Traits*

Big Five Personality Traits	Mean	Std. Deviation
Neuroticism	2,78	0,50
Extraversion	3,46	0,44
Openness	3,57	0,45
Agreeableness	3,42	0,46
Conscientiousness	3,51	0,52

Neuroticism is related with the tendency to experience unpleasant emotions such as anger, worry or depression; it also refers to the degree of emotional instability and impulsivity. Extraversion refers to the positive feelings and good social relations. Those individuals with high levels of extraversion experience positive emotions and have high levels of energy, assertiveness and sociability. Openness is associated with the appreciation of new and unfamiliar. It is also related with the imaginative capacity of the individidual. Agreeableness is about having the tendency to cooperate rather than being suspicious towards others. It is also related with one's trusting and helping nature. Conscientiousness is associated with self-discipline, dutifulness and aim for achievement (McCrae & Costa, 1989). In this research, openness has the highest and neuroticism has the lowest mean score.

Table 4: *Mean Scores and Std. Deviations of Personality Facets*

Main Traits	Facets	Mean	Std. Deviation
Neuroticism	Anxiety	3.07	0.85
	Anger	3.08	0.97
	Depression	2.44	0.71
	Self-Consciousness	2.72	0.67
	Immoderation	2.76	0.73
	Vulnerability	2.56	0.77
Extraversion	Friendliness	3.50	0.67
	Gregariousness	3.03	0.87
	Assertiveness	3.73	0.61
	Activity	3.28	0.70
	Excitement	3.39	0.80
	Cheerfulness	3.79	0.72
Openness	Imagination	3.96	0.77
	Artistic	3.63	0.77
	Emotionality	3.82	0.63

	Adventurousness	3.16	0.69
	Intellect	3.63	0.79
	Liberalism	3.18	0.68
Agreeableness	Trust	3.28	0.86
	Morality	3.78	0.87
	Altruism	3.96	0.65
	Cooperation	3.13	0.75
	Modesty	2.60	0.65
	Sympathy	3.74	0.73
Conscientiousness	Efficacy	3.74	0.64
	Orderliness	3.23	0.95
	Dutifulness	3.97	0.65
	Achievement	3.47	0.75
	Discipline	3.30	0.70
	Cautiousness	3.32	0.82

Although anxiety and anger facets are slighty positive, every other facet in neuroticism domain is under mean score of neuroticism. Among all, depression has the lowest mean score. Anxiety can be defined as fear for the worst possibility, worry for things and low resistance to stress. Low resistance to irritation and being quick-tempered characterize anger. Depression, which has the lowest mean score, signifies feeling dislike and uncomfort for self (Johnson, 2014). Cheerfulness has the highest and gregariousness has the lowest mean scores among extraversion domain. Having and radiating joy and loving life in a bright perspective describe cheerfulness. The lowest scored facet gregariousness signifies preferring crowds and talking with many different people in social gatherings (Johnson, 2014). Imagination has the highest and adventurousness has the lowest mean score in openness domain. Having new ideas and enjoying fantasies characterize imagination. Adventurouness signify orientation to change and variety (Johnson, 2014). Among the domain agreeableness, altruism has the highest and modesty has the lowest mean score. Low scorers in modesty believe they are superior and may be considered arrogant by others. Altruism can be defined as manifest in an active concern for the welfare of others (Johnson, 2014). Dutifulness has the highest and orderliness has the lowest mean score in conscientiousness domain. Dutifulness can be described by adherence to truth, rules, and promises. Orderliness can be characterized by putting things back in their place and tidying up (Johnson, 2014). In addition, among all facets dutifulness has the highest and vulnerability has the lowest mean scores.

Table 5: *Correlations between Dimensions of Emotional Intelligence and Big Five Personality Traits*

Correlations

	1	2	3	4	5	6	7	8	9
1.self emotional appraisal	1								
2.other emotional appraisal	.333**	1							
3.use of emotions	.157*	.162*	1						
4.regulation of emotions	.054	.050	.232**	1					
5.neuroticism	-.115	.049	-.216**	-.451**	1				
6.extraversion	.252**	.236**	.255**	.164*	-.304**	1			
7.openness	.204**	.170**	.144*	.152*	-.190**	.330**	1		
8.agreeableness	-.005	.130*	.053	.323**	-.107	.037	.370**	1	
9.conscientiousness	.074	.167*	.595**	.334**	-.351**	.194**	.308**	.389**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

According to the correlation results, one of the most powerful relations is between use of emotions and conscientiousness (r=.60, p<.01). The facets of conscientiousness are self-efficacy, orderliness, dutifulness, achievement striving, self-discipline, and cautiousness (Johnson, 2014). Use of emotions refers to the ability to utilize one's own emotions to increase one's performance (Bitmis & Ergeneli, 2014). Thus, it is understandable that people's abilities to employ their emotions are significantly and positively related with their efficacy, goal-attainment, discipline, and care. Furthermore, one of the other most powerful relations is found between regulation of emotions and neuroticism. Accordingly, regulation of emotions has negative and significant correlation with neuroticism (r=-.45, p<.01). The facets of neuroticism are anxiety, anger, depression, self-consciousness, immoderation, and vulnerability (Johnson, 2014). Regulation of emotions refers to one's ability to adjust one's emotions (Bitmis & Ergeneli, 2014). It is coherent that people's abilities to

regulate their emotions will be negatively related with their worry, bad-temper, unbalanced acts, and fragility.

In addition, there are other significant relations between variables however they are not as strong as the relations that was explained in previous paragraphs. Self emotional appraisal is related significantly and positively with extraversion (r=.25, p<.01) and openness (r=.20, p<.01). Other emotional appraisal is correlated with significantly and positively with extraversion (r=.24, p<.01), openness (r=.17, p<.01), agreeableness (r=.13, p<.05), and conscientiousness (r=.17, p<.05). Use of emotions is significantly and negatively associated with neuroticism (r=-.22, p<.01), whereas it is significantly and positively associated with extraversion (r=.26, p<.01) and openness (r=.14, p<.05). Regulation of emotions is found to have significant and positive correlations with extraversion (r=.16, p<.05), openness (r=.15, p<.05), agreeableness (r=.32, p<.01), and conscientiousness (r=.33, p<.01).

Table 6: *The Impact of Big Five Personality Traits on Self Emotional Appraisal by Regression Analysis*

Model Summary			**ANOVA**		
R	R Square	Adjusted R Square	F		Sig.
.305	.093	.073	4.606		.001
Correlations					
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	.027	.063		.427	.670
Neuroticism	-.044	.070	-.044	-.626	.532
Extraversion	.195	.070	.196	2.788	.006
Openness	.156	.073	.157	2.140	.033
Agreeableness	-.082	.072	-.083	-1.136	.257
Conscientiousness	.033	.074	.032	.439	.661

All in all, in addition to the powerful correlations between use of emotions and conscientiousness and regulation of emotions and neuroticism, extraversion is found to have significant and positive relations with all dimensions of emotional intelligence. It is meaningful that people who feel comfortable with people, have control in relationships, are socially active, and enjoy adventure may also

comprehend one's own emotions and emotions of others around and they may adjust their emotions in social life and make use of them constructively.

The model summary table shows that big five personality traits can explain the % 7 of change in self emotional appraisal significantly (p<.01). From the coefficients table, it can be seen that only extraversion (p<.01) and openness (p<.05) have positive and significant effects on self emotional appraisal. It is coherent that extraverted people, who experience themselves in social situations and people who are open to experience, being interested in ideas, discussions, and arts, are likely to realize their emotions much more.

Table 7: *The Impact of Big Five Personality Traits on Other Emotional Appraisal by Regression Analysis*

Model Summary			**ANOVA**		
R	R Square	Adjusted R Square	F		Sig.
.333	.111	.091	5.594		.000
Correlations					
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	.000	.064		.003	.997
Neuroticism	.189	.070	.188	2.711	.007
Extraversion	.246	.070	.243	3.506	.001
Openness	.061	.073	.060	.827	.409
Agreeableness	.064	.072	.064	.888	.375
Conscientiousness	.150	.075	.147	2.008	.046

The model summary table shows that Big Five Personality traits can explain %9 of change in other emotional appraisal significantly (p< .001). From the coefficients table, it can be seen that neuroticisim (p<.01), extraversion (p<.01), and conscientiousness (p<.05) have significant effects on other emotional appraisal. It is understandable that neurotic people, who worry about things easily, are likely to be sensitive to the clues in their social environment such as others' emotions although the appraisal of it will probably be negative. In addition, it is meaningful that extraverted people, who are busy with social contacts and conscientiousness people, who give importance to integrity and discipline, are likely to be more sensitive to the emotions of others. The question may come to the mind that agreeableness which is related with concern and feel sorry for problems of others why not came up as

statistically significant for its effect on understanding emotions's of others. This might be explained by the meaning, content of agreeableness is related with sempathy (Johnson, 2014) rather than empathy.

Table 8: *The Impact of Big Five Personality Traits on Regulation of Emotions by Regression Analysis*

Model Summary			**ANOVA**	
R	R Square	Adjusted R Square	F	Sig.
.538	.290	.274	18.288	.000
Correlations				
	Unstandardized Coefficients		Standardized Coefficients	
	B	Std . Error	Beta	t	Sig.
(Constant)	.000	.056		.003	.998
Neuroticism	-.384	.062	-.384	-6.211	.000
Extraversion	.042	.062	.042	.670	.504
Openness	-.074	.065	-.074	-1.145	.253
Agreeableness	.272	.064	.273	4.246	.000
Conscientiousness	.103	.066	.102	1.559	.120

The model summary table shows that big five personality traits can explain %27 of change in regulation of emotions significantly (p<.001). From the coefficients table, it can be understood that neuroticisim (p<.001) and agreeableness (p<.001) have significant effects on regulation of emotions. Neurotics, who are bad-tempered and get owerhelmed easily, are less likely to control anger and cope with difficulties rationally. Agreeable people, who prefer cooperation and modesty, are more likely to have good control of their emotions and be calm in difficult situations.

The model summary table indicates that big five personality traits can explain % 41 of change in use of emotions significantly (p<.001). From the coefficients table, it can be seen that only extraversion (p<.01), agreeableness (p<.01), and conscientiousness (p<.001) have significant effects on use of emotions. It is coherent that extraverted people who are socially active and take charge and conscientious people, who strive for achievement, actualize plans, think and decide cautiously, are likely to be motivated to do the best for their goals. It is also found out that agreeable people, who trust others and like to help others, are less likely to set self-oriented goals and concern more for other-oriented goals.

Table 9: *The Impact of Big Five Personality Traits on Use of Emotions by Regression Analysis*

Model Summary			**ANOVA**	
R	R Square	Adjusted R Square	F	Sig.
.653	.426	.413	33.278	.000
Correlations				
	Unstandardized Coefficients		Standardized Coefficients	
	B	Std. Error	Beta	t	Sig.
(Constant)	.003	.051		.062	.951
Neuroticism	.031	.056	.031	.561	.575
Extraversion	.165	.056	.163	2.920	.004
Openness	-.038	.059	-.038	-.655	.513
Agreeableness	-.190	.058	-.189	-3.266	.001
Conscientiousness	.684	.060	.672	11.433	.000

Table 10: *Self-Appraisals of Millennials on Roger's Q-Sort List of Attributes*

Adjective	**Mean**	**Std. Dev.**	**Rank**	**Adjective**	**Mean**	**Std. Dev.**	**Rank**
Anxious	3,03	1,14	18	Optimistic	3,77	1,09	7
Attractive	3,24	1,15	14	Organized	3,70	1,13	8
Careless	3,09	1,44	16	Out-Going	4,06	0,88	2
Depressed	2,53	1,24	21	Plain	3,62	1,19	9
Dishonest	2,19	1,25	23	Relaxed	3,91	1,16	6
Energetic	4,00	0,94	5	Sad	2,65	1,16	20
Funny	3,54	1,21	11	Serious	3,41	1,10	13
Happy	3,54	1,20	11	Shy	3,16	1,35	15
Honest	4,24	0,78	1	Sloppy	3,01	1,34	19
Intelligent	4,05	0,87	3	Strong	3,61	1,03	10
Kind	4,03	0,94	4	Unhelpful	1,95	1,16	24
Lazy	3,07	1,35	17	Weak	2,24	1,17	22

In Roger's self assessment inventory, the adjective "honest" has the highest mean value and "unhelpful" has the lowest mean value that means most millenials perceive themselves as honest and only some perceive themselves as unhelpful. In addition to the self-assessment results, as can be seen in the aforementioned paragraphs, the two hypotheses of the study are supported.

Conclusions and Discussion

Early millennials are about to gradute from faculties and this might be the best chance to identify their characteristics**,** preferences, needs and values as they are supposed to have a say on world issues soon. In the scope of this research, the personality characteristics and their impact on emotional intelligence were studied. In addition, since every one else seems to say something about them; some with positive connotations (innovative, smart, well-educated, organized, social, ambitious etc) and some with negative connotations (lazy, irresponsible, impatient, selfish, disrespectful, etc), this study aims to understand their self-perception from their point of views.

According to the correlation results, personality constructs have significant relations with emotional intelligence dimensions as indicated in the aforementioned analysis part in detail. By the evaluation of the regression analyses, the prediction capacity of personality construct especially on regulation and use of emotion dimensions is identified. As those dimensions are considered to be important on the level of performance and advancement, the importance of personality assessment in personnel selection might need to be reevaluated. Both hypotheses proposing significant relations between the dimensions of emotional intelligence and personality traits are accepted. Depending on the mean scores of Roger's Q-sort list it can also be identified that positive traits are evaluated more than negative traits. Honest, out-going, intelligent, and kind have the highest mean scores while unhelpful, dishonest, weak and depressed have the lowest mean scores.

Although there have been studies that have examined the relationship between personality and emotional intelligence in many contexts, this study has a different aim, model, and measured the concepts differently. In addition, the results can be useful for millenials' retention in work life adaptively, contributing their success to organizational performance, and decreasing youth unemployment as much as possible within the limitations of socioeconomic framework.

In further researches, the effect of cultural context on this relationship can also be taken into consideration. The research topic can be investigated in other geographies in Turkey rather than Istanbul or in different countries. Also, in further studies when adequate numbers of millennials have significant roles in work life, relation between personality characteristics and performance scores need to be investigated with the mediator role of emotional intelligence.

In addition, in one of the interviews that was published in a business and economics journal, Guler Sabanci, one of the most well-known and successful woman in Turkey, talked about understanding Y generation. Deriving from her experiences, she mentioned that it is important for all people to read the changing world comprehensively. She added that instead of market share millenials care about share of heart, they give importance to the universal values such as equality, sustainability and social responsibility and they have the long-term perspective. She stated that these factors could be important for their loyalty (Capital, 2015). In future, the researches regarding the practical implications of the values and preferences of millenials can be examined in social and business context.

It is also crucial to make sense of present and future socioeconomic conditions by considering history and what it has tought. This is valid not only for countries but also for individuals and groups as well. In this regard, youth as a sample who is at the intersection of past and future, who are affected by past, write today, and shape future conditions although bounded by the world's circumstances, is a vital source of research.

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