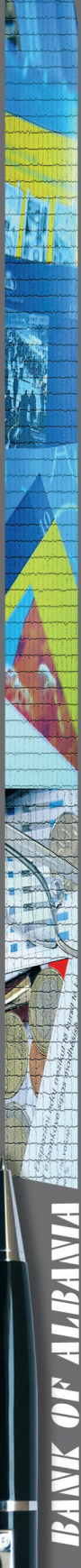

WORKING PAPER

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INVESTIGATING FINANCIAL DEVELOPMENT - ECONOMIC GROWTH NEXUS. A SOUTHEASTERN EUROPE PERSPECTIVE

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CONTENT

ABSTRACT

In a continuous challenge for increasing economic growth pace, Southeastern Europe economies need to explore all contributing channels to this process. While previous researches do not find a significant relation between financial development and economic growth in SEE countries, up-to-date analyses are missing in this aspect. This paper aims to investigate the finance-growth links in a representative group of ten SEE economies through empirically analyzing the latest data available with panel data techniques, and trying to understand if implementation of financial regulatory frameworks and economic reforms during the last decade has contributed to making financial sector development significant for growth. In this context, obtained results show that credit to private sector is the only financial development indicator that has become significantly important in the short run, positively affecting economic growth. While Liquid liabilities and Assets ratio have no significance, seems that financial sector structural reforms need to continue in order to enhance the causal relation between finance and growth.

Keywords: financial institutions, financial development, economic growth

JEL Classification: G2, O16

1. INTRODUCTION

This paper aims to empirically investigate the causal effect that financial development has in influencing economic growth in a group of ten developing and emerging Southeastern Europe economies[1] in a time horizon spanning from 2002 until 2014. Financial sector development is often described as the process of continuous improvement in "quantitative" and "qualitative" terms of financial services and intermediation activity delivered by financial institutions, mainly those performing intermediary functions in efficiently optimizing financial resources allocation towards higher returns market opportunities and lower risks. This research paper seeks to find answers in understanding the extent to which financial sector development is related or plays a role in determining output growth trends for the countries of the SEE region. The main purpose behind paying a dedicated attention to the finance-growth nexus in an SEE context is the effort to fill an existing gap in region's related economic literature.

The pace of economic development dynamics and specific characteristics that financial markets in these economies manifest, some of which relatively young market economies in the context of political and economic EU integration process, have raised interest among academics and policy-makers. Earlier research focusing on the region, Mehl et al (2005), do not find significant empirical evidences for a causal relation between finance and growth; however, they suggest that implementation of proper legal and financial sector reforms would create a necessary enabling environment and pave the way for financial development to start to positively impact growth. In the same theoretical line of thought, Levine et. al. (2000) stress out that application of the "best practices" on legal and accounting standards in the financial sector would enhance the financial development impulse in boosting economic growth. Following the prolonged process of economic and financial reforms that countries in analysis have been going through in the last decade, emerges the research interest to understand reforms' effects bringing closer links between development in financial sector and growth.

[1] Sample is composed by Albania, Bulgaria, Bosnia and Herzegovina, Croatia, Kosovo, Macedonia, Montenegro, Romania, Serbia and Turkey

Applying panel data techniques and building the empirical analyses over the same economic variables used in Levine et. al. (2000), as representative to a wide range of economic studies analyzing the same nexus, and based on the most recent annual data available for ten countries of the sample, this study tends to investigate the "new stance" of finance and growth relationship.

The main contribution of this work consists in creating a continuance of empirical studies on Southeastern Europe economies focusing primarily on financial development-economic growth causal relationship and trying to bring the most updated, to the extent of author's knowledge, and inclusive analyses having in focus this region, in a time horizon when no civil conflicts have taken place allowing thus a consistent process of financial development. A novelty is the inclusion of Kosovo in the sample in view of its economic interrelation with other countries in a regional context.

The paper is structured as follows: the first section offers a theoretical overview of economic benefits stemming from well-developed financial markets and intermediaries; in the next section an extensive literature review summarizes some of the most influential and referred works in focusing on finance-growth relation starting from theoretical papers, general empirical studies and to finalize this part with SEE focused ones; third section describes data and methodology used for the empirical analyses followed by the obtained results and the final part draws conclusions and recommendations for further researches.

2. DEFINING FINANCIAL DEVELOPMENT

In financial economics literature, where finance and economics are analyzed in joint interaction, financial development is perceived as a process of growth in financial markets, where development is defined through the combination of a complexity of qualitative and quantitative indicators describing financial access, performance of financial intermediaries, as well as other financial institutions and the legal - regulatory framework serving as an operational base for the functioning of financial institutions. Referring to World Bank

sources, financial development comes as a complex formation of financial system characteristics standing for: financial depth – a description of financial markets and institutions size; financial access – ease of accessing financing sources; efficiency – as a measurement of financial institutions performance; and stability of financial system. Depending on the data availability on economies of the Southeastern Europe, five indicators are chosen for the empirical analysis to broadly and quantitatively define financial sector development dynamics in the sample economies.

2.1 ECONOMIC IMPORTANCE OF FINANCIAL DEVELOPMENT

In a functioning market economy, financial intermediation has a structural importance in creating the needed ground for facilitating and fostering proper market economy development as well as broadening growth perspectives for the private sector. In this light, numerous theoretical and empirical research works have continuously confirmed such importance and deepened over time analysis on the main channels, via which financial sector development impacts the business environment and positively influences growth in the economy as a whole.

Some of the principal theoretic aspects that would help to explain economic importance of financial intermediaries as part of the financial sector and their sound development benefits to market economies and economic agents while contributing to growth are:

- Financial intermediaries play a vital role in crediting the private sector and the economy by applying interest rates that reflect competitiveness and completeness of respective financial markets. In these conditions, a higher and fairer competition in the financial sector would be reflected in lower financing costs for the economy.

- Intermediaries have structural crucial role in pooling savings and allocating resources in the economy towards economic agents that are financially reliable, less risky and promising for higher

productive economic activities. Qualitative development of financial intermediaries, further than guaranteeing households savings, becomes also decisive for efficient operation of financial markets and thus serving to increased productivity of investment, the latter being also a main leading force behind incentivizing continuous technological optimization of processes. In addition to streaming financial resources towards higher returns, optimal operational management is qualitatively bolstered by financial services industry aims at higher productivity of human and physical capital.

- Well-developed, professional and ethic financial institutions are essentially important to prevent incremental risks that derive from asymmetry of information and may result to be costly for the private sector among which the moral-hazard and adverse selection risk. Providing the private sector with highly qualified expertise, financial intermediaries contribute to reducing risks arising from asymmetry of information in the economy.

- Channeling and facilitating access to financing resources for the whole range of individual and institutional customers, financial intermediaries play a vital role in creating a stimulating environment for exploiting economic opportunities, creating more jobs and thus enhancing social welfare.

- By crediting the private sector, financial intermediaries allow diversification of financing sources, optimizing their financial performance through advantages of financial leverage and, in this path, creating necessary conditions for sustainable business activity by diminishing the operative drawbacks that would be caused from lack of liquidity, present symptoms present when firms use solely self-financing capital.

- Formalizing the economy and playing often the role of fiscal agents, financial intermediaries are crucial in contributing to reducing the tax evasion phenomenon, as the main concern for public finances in developing economies, and optimizing the mechanisms for efficient controlling frameworks on private sector operations.

- Due to the economy of scale and free market competitiveness, banks, as well as other financial institutions, become instrumental in reducing transactions costs for the economy and creating a more enabling environment for the business development in the long term.

- Serving as financial channels for sending and receiving easily and cost-efficiently capital transfers often in the form of remittances is another very important function played by financial intermediaries in developing economies, with a direct impact on households' budgets, general consumption and private investments.

- Financial assistance, advising and monitoring are some of the main services provided and delivered to economic agents from financial services institutions, always under the supervision of public regulatory bodies that pave the way for better risk management attitudes in a business environment and safer and well-functioning financial markets.

In conclusion, sound development of well-functioning financial intermediaries, as part of a solid and regulated financial sector, is of paramount importance to maximize the economic benefits from qualitative financial development, while protecting markets from liquidity risks and diversifying investment risks through the wide range of the credited economic sectors.

3. LITERATURE REVIEW

The relationship between financial sector development and economic growth has always been in focus of economists' theoretical and empirical research analyses, as contributing efforts in trying to better understand and effectively utilize compounding effects and mechanisms of this economic phenomenon in favor of growth. The financial development process in itself has evolved over time as a result of incrementally efficient and productive financial markets and their increasing influence on growth. This literature review, aims to bring a perspective of the main influential research works

in this field, over time, in a structured way. The first subsection presents a mosaic of theoretical papers emphasizing their specific contribution to analyzing the financial development-growth relation. Afterwards, empirical results are brought to the reader's attention, which different authors have obtained by testing the finance-growth nexus hypothesis in general groups of countries. Lastly, given the dedicated aim of this paper in analyzing and understanding the phenomenon in a group of Southeastern Europe economies, a summary is made on studies and empirical results of research delivered until present day on the region.

3.1 THEORETICAL ARGUMENTS IN UNDERSTANDING FINANCIAL DEVELOPMENT–GROWTH NEXUS

Influential works from Bagehot (1873) and Schumpeter (1912) unveil the early theoretical deductions that development of financial intermediaries in support of entrepreneurial initiatives positively impacts the economic growth by channeling the sources of funding towards the most efficient innovative ideas in the market, destined to succeed and eventually impulse growth in economy. Robinson (1952) focuses his theoretical work on analyzing the importance of capital management for maximizing profits and the utility of production functions for economic agents and economy as a whole, through optimizing determination of production factors. The study concludes that, to a certain extent, financial development is a structural consequence of population growth and technical progress. Boyd and Prescott (1985) emphasize the endogeneity in the growth environment of "intermediaries' coalitions". Robert Lucas in his influential work of (1988) manifests a skeptical belief on the real importance that financial sector development has in fostering economic growth, "over-stressing" the relevance of financial intermediation in inducing faster pace of growth. For Greenwood and Jovanovic (1990), the economic growth creates the needed stimulus for the "financial superstructure" to maximize profits and further consolidate, while, in turn, financial development paves the way for further growth.

3.2 EMPIRICAL RESEARCH ON GENERAL GROUPS OF COUNTRIES

Paying a dedicated attention to the empirical analysis of finance-growth relation, Goldsmith (1969) offers significant proof of positive relationship between the financial sector development and economic growth in a wide group of developed and developing economies. King and Levine in their much referred paper of (1993) find a significant positive relationship between the financial sector development and economic growth in the wide sample of developed and developing economies. They go further and conclude that in the development of financial sector lays also the key to predict future rates of growth in the coming 10 to 30 years, given this robust positive relationship. Rajan and Zingales (1996) obtain robust results to support the hypothesis that financial development stimulates economic growth, through lowering external funding interest rates that are essential for expansion of industries dependent on external funding. From a different perspective, Levine and Zervos (1998), in their empirical investigation of the causal significance of banking and stock market development indicators over the short and long -run economic growth indicators, find a robust correlation between stock market liquidity and banking development with present and future rates of economic growth as well as two other growth related indicators, productivity and capital accumulation.

Levine, Loayza and Beck (2000), in addition to positive relationship on the finance growth nexus, emphasize that enforcement of legal and accounting frameworks by implementing "best practices" contributes exogenously in the consolidation of a sound development of financial intermediary sector, favor the creation of a business-enabling environment and positively supports economic growth. Loayza and Ranciuere (2005) find that, in the long run, increased financial depth and further financial sector liberalization contribute to financial development that stands in a positive relationship with economic growth; meanwhile, in short-run, in troubled economies, typically after post crisis, financial intermediation liberalization and depth do not contribute to impacting growth. Greenwood et. al. (2012) conclude in an impressing result: in case the sample countries would implement the "best financial practices" for developing

their financial sector, the world output is projected to significantly grow by 53 per cent, under the assumption that financial markets, enhanced by higher productive intermediation channels, would boost economic growth.

3.3 IMPORTANCE OF FINANCIAL REGULATION FOR QUALITATIVE FINANCIAL DEVELOPMENT

In order to focus more on the soundness of financial systems and the quality of intermediaries' market development as essential elements for a positive impact on economic growth, this subsection will be dedicated to the role of financial regulation in financial sector consolidation. Financial regulation stands at the forefront of the sustainable and solid development of the financial sector. In this light, it is relevant to make part of this literature review a general overview of research papers mainly addressing this issue in developing countries or other economic contexts that share similar features with Southeastern Europe economies.

In this perspective, Rojas-Suarez (2004) studies a wide sample of developing economies and concludes that financial regulations implemented in these economies need to respond in a proper manner to all their financial market specifics in order to achieve the regulators' expected effectiveness. Alici and Ozgoker (2006), focusing on a comparative analyses of the prudential regulatory framework implemented in the Turkish financial system, conclude that developing economies, in order to achieve sound financial development, need tailored financial sector reforms targeting precisely and efficiently the characteristics that differ them from developed ones. De Serres et. al. (2006) find significant explanatory links between financial regulation and economic growth stating further that the policymakers should aim to design and tailor regulatory frameworks that allow vibrant completion in the financial intermediation sector without increasing systemic risks. Following the 2008 financial crises, the debate was reopened among regulators whether de-regulation was good for financial markets. In line with this debate, a predominant idea brought by Chowdhury (2010) is that "re-regulation" is needed to take place in order to protect

and immunize the financial systems, especially in developing economies, from eventual systemic failures and, furthermore, allow financial sector development to positively contribute to economic growth. Sinha et. al. (2011) make a deep analysis of the positive and important effects that continuous financial regulation has on consolidating and further developing the banking sector and the financial sector as a whole. They bring vast evidences in support of this widely accepted economic study and emphasize the positive impact of financial sector soundness on economic growth.

Overall, economists consider that good financial regulation basing on internationally-accepted regulatory standards of financial sector is an essential requirement for achieving sound financial development that is positively related to economic growth.

3.4 SUMMARY OF EMPIRICAL STUDIES FOCUSING ON DEVELOPING AND SEE ECONOMIES

Having in consideration that the analysis of this paper is focused on ten economies in Southeastern Europe, it is of topical interest to dedicate some specific attention to the research made so far in investigating the financial development – economic growth relationship in developing countries, given that they manifest similar characteristics with our sample. It is accurate to highlight that in developing economies, empirical economic researches on the finance-growth nexus find comparable results to those highlighted in papers studying developed countries regarding a main general positive relation between financial development and growth. Not surprisingly, there are also studies that bring evidences on how in developing economies scarce financial development in qualitative terms does not positively impact growth. The following summary aims to offer a diverse mosaic of findings in this regard.

3.4.1 DEVELOPING ECONOMIES LITERATURE

A relevant paper on this finance-growth relation prepared by Al Yusif (2002) focusing on a sample of 48 developing economies presents the obtained empirical robust results. The paper finds a two-sided causality between financial development and growth concluding that the development of financial sector in these economies contributes to fostering economic growth and vice-versa.

Christopoulos and Tsionas (2004), going through 10 developing economies, bolster similar results on the positive impact of financial depth on growth in the long–run, testing through panel unit root and cointegration econometric techniques. Meanwhile, in the short run, the results obtained are ambiguous and, according to their views, the implementation of financial sector reforms should be expected to impact growth only in the long-term perspective. In addition to financial development indicators, in the paper of Ahmad and Malik (2009), domestic capital accumulation affecting workers productivity is regarded as a significant factor in promoting economic growth more than foreign capital, while the latter being a follower of domestic capital. Trade openness is also found to be positively significant in enhancing economic growth in a panel of 35 developing economies for the years 1970-2003. Estrada et. al. (2010) follow along the same line of findings, analyzing through panel data techniques a sample of 116 Asian developing economies from 1987 to 2008. Results reveal that financial depth counts more than the structure of financial system for supporting growth in the countries of the sample. They put an accent also on the instrumental role of financial openness as a positive relevant factor for growth, which, according to authors, is in some cases even more significant than financial development. Seetanaha et. al. (2010) investigate the relation of stock markets, banking sector development and growth in a sample of 27 developing countries. They find that stock markets and banking sector are closely joined in a "complementary" development process, while development of each is positively related to economic growth. Developed financial markets are crucial in helping developing economies exploit their economic growth potential and a positive relation between them is proved empirically in the long run. However, further analyzing

a group of 168 low and middle income countries in 1980-2007, Hassan et. al. (2011) find that only financial sector optimization in itself cannot boost output unless a wide range of facilitating preconditions for growth are met,

3.4.2 SOUTHEASTERN EUROPE FOCUSED RESEARCH

There is an incremental attention from the side of European policymakers and global financial institutions, such as World Bank and IMF, towards better understanding of financial development and growth paths of SEE economies. In this context, some research works have been exploring the ways how finance and growth representative economic indicators stand to each-other in a causal relationship in this region and a condensed summary of their results will follow.

Mehl, Vespro and Winkler (2005) testing the finance-growth relation focus their study on a sample of nine SEE economies, namely: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, Moldova, Romania, Serbia and Montenegro for the period from 1993 until 2001. They do not find empirical evidences for a positive relation between financial development and economic growth, explaining it with the poor economic environment consisting in deficiencies in legal, regulatory and supervisory frameworks, lack of human capital and a reminiscence of "socialist legacy" the region witnessed during 1990s. Further, the authors introduce the conceptual differences between quantitative and qualitative financial development, noticing that the lack of quality in the financial deepening process in the SEE economies impedes a positive finance-growth relation. They emphasize the importance of economic reforms implementation in SEE economies as a precondition for creating an enabling environment that would lead in the long run to a positive causal relationship between financial development and economic growth. Caporale et. al. (2009) analyzing the group of 10 newest countries joining the European Union, of which Romania and Bulgaria are considered in the SEE, find a positive causal effect of financial development on growth but not any sign of vice-versa, despite the still underdeveloped financial

sectors in these economies. Haiss et. al. (2007) find empirical evidences that the finance-growth positive causal relation widely seen in developed economies, stands true also for a sample of four SEE countries, namely Bulgaria, Romania, Croatia and Turkey. An interesting finding of this study is that different levels of economic development in SEE countries determine different pace of financial market consolidation and, as a result, different impact on economic growth.

Using quarterly data for 11 years for the Albanian economy, Dushku (2009) investigates the causal relationship between financial development and growth in Albania, finding that in, the long run, empirical results confirm a positive relation between the two, while in the short run the results remain ambiguous. Koczan (2015) highlights that Western Balkans economies continue to be vulnerable in different sectors, because of being depended on the economic development of their neighbor economic and trade partners, while high public deficits and debt levels remain a public finance challenge for the region.

4. DATA AND METHODOLOGY

4.1 THE DATA

Southeastern Europe consists in a group of developing and emerging economies some of which have already joined EU and others aim to be part of the European common market while undergoing a prolonged integration process under a candidate country or potential candidate status. For this reason, understanding better the mechanics of economic growth in the SEE region, while analyzing the relationship and the contribution of financial development towards growth, is relevant to policymakers, scholars and academics involved in designing and implementing economic reforms in these countries. Not many studies have been focusing on the financial development-economic growth relationship. Also, the insofar research have lost their relevance because of the politico-economic environment continuous change. This contribution aims to provide a wide inclusive analysis of investigating the finance-

growth nexus on a group of ten Southeastern Europe economies for the period from 2002 until 2014.

4.1.1 INDICATORS DESCRIPTION

As described earlier in the literature review, researchers and academics have followed different paths in trying to better understand and interpret the financial development-growth relation and on these grounds they have also worked in defining the most significant indicators to properly investigate this economic phenomenon. The selection of representative variables for defining financial development is made by following the work done from influential economists who have worked extensively in this field during years. At the epicenter of understanding financial development stands the analysis of financial intermediaries' activity. As mentioned above, the quality of financial development and its impact on economic growth depends on the efficiency of intermediaries' role in increasing savings, pool a wide range of risks and search the market for increasing profitable opportunities to allocate resources. On these grounds, five are the main variables used in this analysis to define financial sector development and intermediaries' position.

The first variable is Liquid Liabilities in the financial system over the Gross Domestic Product, a financial depth measure used by different authors such as Goldsmith (1969), King and Levine (1993), Levine, Loayza and Beck (2000), to identify the size of financial market. Calculated as the ratio of Broad Money on GDP[2], this variable describes the size of financial system; however, a main concern regarding its accuracy is that it does provide information on the quality of intermediaries' development. This indicator will hereinafter appear as Liquid Liabilities in the analysis and under the acronym BM in Appendixes or related working files.

Aiming to indentify further the degree of financial development and the credit expansion in the sample economies, a second indicator to be included in the analysis is the Domestic Credit to

[2] Liquid liabilities consist in the sum of currency outside the banking system, time, savings and foreign currency deposits in the system from residents, securities and demand deposits other than from central government

Private Sector over GDP, measuring financing from private financial intermediaries, excluding the Monetary Authority, towards the private sector. The economic logic behind this variable is that private sector plays a crucial role in growth by creating more jobs and boosting consumption in the economy. Introduced as an improved measure of financial development in finance-growth literature from Levine, Loayza and Beck(2000), further than being a size indicator, it represents financing of the leading sector in the growth of an economy, the private one. Given that in SEE countries the private lending providers' specter includes also other financial institutions, such as microfinance institutions mainly focused in microcredit or non-bank financial institutions, this indicator is significant for the analysis in trying to understand better the dynamics of financial development. This variable will appear as Private Credit and the acronym in Appendixes is DCPS standing for Domestic Credit Private Sector.

A third financial depth indicator is the one constructed as a ratio of the Commercial or Deposit Money Banks assets over the sum of Commercial Banks Assets and Central Bank assets. This independent variable is expected to represent a relative significance that second level banks have in delivering financial intermediation and providing financing for agents in 10 SEE economies where deposit money banks seem to be the main and foremost important financial intermediaries in the financial market. Despite not being a precise indicator of the size or quality of financial intermediation in financial systems, it is valued by King and Levine (1993) as valuable variable representing the importance of financial intermediaries in finding market profitable opportunities to raise returns and optimize resource allocation. This measure will be identified as Assets Ratio while the acronym will be CBAR standing for Commercial Bank Assets Ratio.

Following the main three variables in use to determine financial development in a financial system as a whole, on the purpose of understanding the significance of intermediaries in influencing growth in the sample countries, two related financial indicators that measure specifically the scale of financial intermediaries, in this case banks, are included in the analysis as Bank Deposits to GDP

and Private Credit from Banks to GDP with respective acronyms DEP and BANK shown in the empirical tests part.

The indicator that is used to identify the economic growth in the analyses is the Rate of real GDP growth per capita as a good representative determinant of economic growth, not only for the SEE region economies.

In addition to the main finance and growth indicators, following Levine, Loayza and Beck (2000) work, a "conditioning set" consisting of independent variables reflecting policy factors commonly used in literature to explain economic growth is built.[3]

4.1.2 THE DATASET

Given the dedicated focus of this study to investigate the financial development-growth relationship in Southeastern Europe, the group of countries in analyses is composed by Albania, Bulgaria, Bosnia and Herzegovina, Croatia, Kosovo, Macedonia, Montenegro, Romania, Serbia and Turkey. All these countries are members or aim to join the European Union. Various studies bring in evidence an economic convergence process between some of these economies due to similarities they share as transition economies, Tanku (2012). Despite the fact that Bulgaria, Romania and recently Croatia are "new-members" of the European Union, with full membership rights, these economies show similarities with other neighbor countries of the SEE region. Same logic applies to the inclusion of Turkey in the dataset, part of a number of previous economic studies on the region, which keeps the EU candidate status country and appears in most of researches of Southeastern Europe. The novelty is the inclusion of Kosovo, the newest country in the region, aiming to give to the main focus of analysis a more holistic approach basing on comparative similarities among financial markets in the selected countries sample.

[3] Indicators included in the conditioning set are Income per capita, Government size, Inflation, Trade Openness and Average Secondary schooling years. Data are annual for a period from 2002 – 2014.

In an annual frequency, the data are collected for 13 years starting from 2002 until 2014. This applies to the data on Growth, Liquid Liabilities, Private Credit and the variables of the conditioning set mainly collected via the World Bank databank. For the Assets Ratio variable the data collected through the Global Financial Development database are available only for 2002-2011 for all the sample countries. The two other variables representing financial intermediaries' activity, Private Credit from banks and Bank Deposits to GDP are respectively included in the dataset covering periods 2002-2014 and 2002-2013 depending on availability. Main sources of data utilized to create the dataset are the two databases of the World Bank, World Development Indicators and Global Financial Development Indicators, Central Banks Statistical Offices, International Financial Statistics of IMF (Financial Access Survey), World Economic Outlook, UN Comtrade, Federal Reserve database and National Institutes of Statistics sources.[4] The frequency of data is annual.

Table 1 Main indicators' data description

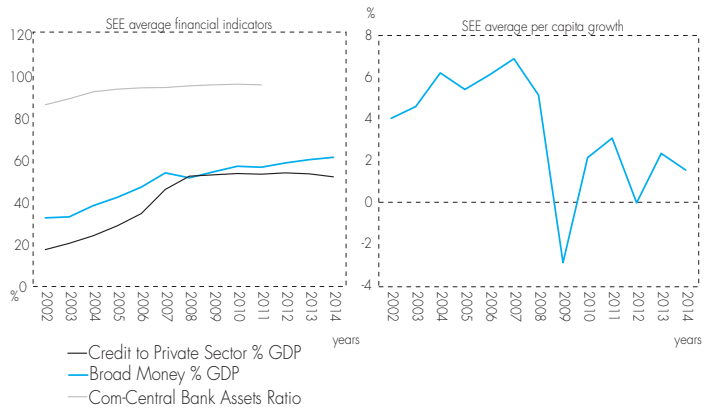
	Liquid Liabilities Broad Money % GDP)	Credit to Private Sector % GDP	Comercial - Central Bank Assets Ratio	Credit from provate banks % GDP	Bank Deposits % GDP
Mean	49.0	41.0	92.6	39.7	41.0
Median	48.5	39.6	98.4	38.4	41.2
Maximum	84.7	87.0	100.0	86.9	71.2
Minimum	11.3	3.0	56.3	3.0	11.1
Std. Dev	17.7	19.3	11.4	18.7	14.4
Observations	130	130	100	130	120

Referring to the above average, fronSEE indicators Charts is possible to notice that from 2008, year when the financial crisis hit world markets, and onwards, the average private credit in economy has had a plateau trend around 52% of GDP. Meanwhile, liquid liabilities have seen a light increase during the same period and the

[4] Trade Openness is calculated from UN Comtrade data following the broad definition of TO (imports+exports volumes) over GDP. In some cases, like the Assets Ratio for Kosovo, time series are calculated by the author basing on the data collected from the Central Bank of Kosovo regarding Commercial Banks and Central Bank Balance Sheets.

upward movement of commercial to central bank assets ratio has also followed in the same path.

Chart 1 SEE financial development indicators and growth averages trends



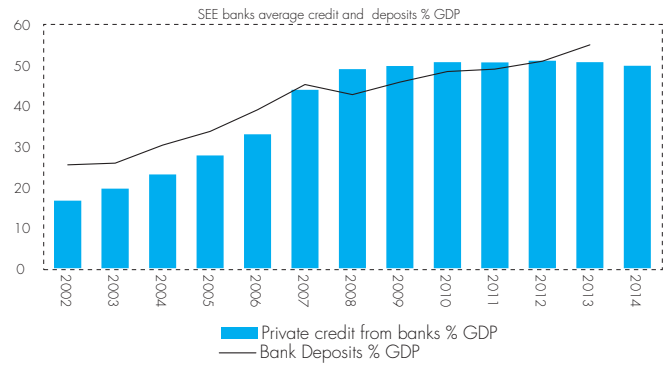
Source: World Bank databank and Central Banks Statistics. Author's graph.

In Chart 1-b, the average per capita real GDP growth in Southeastern European countries has plummeted in 2009 due to crises effects (well described in the Panagiotou 2012). It is also possible to see in the Chart the decline in growth rate during 2012, when the sovereign debt crises peaked in Greece and Italy, the main trading partners for most of the countries in SEE, hence negatively affecting growth. Chart 2 illustrates the average trends of private credit disbursed by banks in SEE countries and banks' deposits as a per cent of GDP. While private credit from banks in the sample follows the same path as total credit to private sector, bank deposits have kept growing since 2008. This phenomenon in the Albanian economy analyzed from the Bank of Albania was a result of capital transfers of Albanian legal emigrants from Greece and Italy in crises towards Albanian banks in the form of bank deposits[5].

For a detailed description of indicators and data sources and descriptive statistics of conditioning set factors please see Table 3 and Table 4 in Appendices.

[5] Bank of Albania Economic Bulletins 2013

Chart 2 SEE banks credit to private sector and bank deposits (per cent of GDP)



Source: World Bank databank, IMF, Central Banks Statistics and author's calculations.

4.2 METHODOLOGY

The empirical investigation of the financial development and economic growth relation in Southeastern Europe treated in this study is made by utilizing as main econometric tools of panel data techniques. Real per capita growth rate and financial development indicators, together with the conditioning set factors, for the sample of ten economies are regressed by using pooled OLS, fixed and random effects econometric tests. Being depended on short annual data time series for the sample and the limited number of countries, dynamic panel data techniques such as GMM methods are not seen adequate to properly investigate this relation under the present data limitations. Following the economic logic and variables behind the Levine, Loayza and Beck (2000) analysis, the representative regression of the model would be:

$$R.GROWTH\,it = \alpha + \beta\, FIN.DEV\,it + \lambda\{CONDITIONING\ SET\}it + \varepsilon, t$$

where i *indexes the cross-section in this case countries and* t *the time.*

In order to avoid the risk of co-linearity between the financial development indicators, they are included in the equation one by one, otherwise expressed if the depended variable is real GDP growth per capita, independent variables are either Liquid Liabilities, Credit, Assets Ratio, Private Credit or Bank Deposits. The conditioning set consist in explanatory variables commonly used in relation to growth such as Initial per capita income, Government size, Trade openness, Inflation and Average secondary schooling years. Being conditioned on the availability of data on deposit money-central bank assets ratio, regressions are run over the period 2002-2011 testing for the relationship with per capita growth, while tests for Liquid Liabilities, Private Credit and Banks Credit impact on growth are run over 2002-2014 period. Deposits over GDP as a financial depth indicator enters the analysis for the period 2002-2013.

In order to catch the 2009 crises negative impact on SEE economies and the contagion effect of sovereign debt crises in Greece and Italy over the sample economies, two dummy variables are added in the econometric analyses indicating years 2009 and 2012. In the case of Assets ratio, given the length of time series empirical tests are performed using only the first crises dummy. Apart from the rate of GDP growth per capita and average years of schooling other variables enter regressions in a log-linear form[6]. In order to create conditions for more representative empirical results, regressions are run over balanced panel data, on an annual frequency, in the time horizons aforementioned.[7]

[6] Inflation enters the regression as log(3+variable) in order to skip missing data that would result in negative values.

[7] All the data used in this paper, organized in long format are supplied in electronic form together with the Do File describing all steps followed to properly run the empirical tests.

5. RESULTS

Empirical results obtained from panel data techniques investigating the relationship between financial and economic development in 10 SEE countries for the time horizon 2002-2014 unveil the importance of domestic credit to private sector as an indicator of financial development in positively contributing in the economic growth in these economies. Indicators identifying private credit issued from financial institutions in general and banks in particular are found empirically significant in the analysis as result of econometric tests. The same does not apply to other variables: Liquid Liabilities, Assets Ratio and Bank Deposits over GDP, which despite the positive coefficients do not manifest a strong explanatory significance on rate of growth.

Assembled in Table 2, domestic credit to private sector from financial institutions indicating the total volume of financing towards private sector from banks, microfinance institutions and other financial institutions, and the other variable indicating solely the commercial banks credit to private sector, manifest a significant empirical positive relationship between private credit and growth in these economies. These referring results have been obtained from fixed effects regressions over 2002-2014.

Hausman test results show that for analyzing the finance-growth nexus in the context of these two finance indicators it is more effective to rely on fixed effects estimation rather than random effects. Hausman test value is significant at 10% confidence interval.

Table 2 Panel data analyses results

Regressors	(1) random	(2) fixed	(3) fixed	(4)fixed	(5) fixed
Constant	2.650	1.020	2.740	2.750	2.470
(p-value)	0.008	0.310	0.007	0.007	0.015
Logarithm Income per capita	-2.720	-3.410	-4.260	-4.330	-3.030
(p-value)	0.007	0.001	0.000	0.000	0.003
*Government size**	-0.910	-0.760	-1.710	-1.690	-0.360
(p-value)	0.364	0.451	0.090	0.094	0.719
*Trade Openess**	0.880	3.350	1.230	1.350	0.260
(p-value)	0.379	0.001	0.222	0.180	0.011
*Inflation*a*	2.010	-2.050	0.020	0.030	-1.270
(p-value)	0.044	0.044	0.981	0.979	0.207
Secondary education years	-0.530	1.270	0.630	0.730	0.940
(p-value)	0.594	0.207	0.530	0.467	0.348
*Liquid Liabilities**	0.890				
(p-value)	0.375				
*Assets Ratio**		0.280			
(p-value)		0.780			
*Private Credit in Economy**			2.810		
(p-value)			0.006		
*Credit by banks**				2.910	
(p-value)				0.004	
*Banks Deposits**					0.510
(p-value)					0.610
Dummy 1	-7.330	-7.240	-7.200	-7.170	-7.210
(p-value)	0.000	0.000	0.000	0.000	0.000
Dummy 2	-4.690		-4.800	-4.810	-4.970
(p-value)	0.000		0.000	0.000	0.000
Hausman Test (p-value)	0.292	0.005	0.067	0.066	0.030

* Variable is included in regression in a log-linear forma inflation enters the regressions as log(3+variable) for linearization purposes

A further look on the data on private credit shows that deposit money banks are the principal creditors financing private sector and delivering financial services in the Southeastern Europe economies.

As partly possible to notice in the results table, empirical tests performed with pooled, fixed effects and random effects panel data techniques do not find significant robust statistical evidence of a causal relationship between financial development and economic growth for the full set of financial depth indicators. Liquid Liabilities, Assets Ratio and Banks Deposits entering regressions in log-linear

form have positive coefficients but are not statistically significant to be taken in consideration while analyzing for the importance of finance on growth in the sample economies. However considering the reason behind inclusion of Assets ratio as a financial development indicator, a positive sign of the coefficient follows expectancies regarding the positive role that financial intermediaries play in allocating resources and pooling risks in these economies. The obtained results are conditioned from financial development indicators time series length, tests are run in the respective periods Liquid Liabilities 2002-2014, Assets Ratio 2002-2011 and Banks Deposits 2002-2013.

Paying attention to obtained coefficients of policy factors included in the conditioning set is possible to notice that trade openness positively contributes to growth, while government size stands firmly in a negative relation. Inflation and education appears ambiguous in their significance to growth in the contexts of the present empirical set. Dummy variables indicating the 2009 financial crises and 2012 sovereign debt crises of the main trading partners for SEE countries are significantly important showing for a negative impact that these crises have had on the economic growth of Southeastern Europe economies. However, quality and frequency of data not favoring a further optimization of econometric analysis are needed to be taken in consideration when reading these results.

6. DISCUSSION AND CONCLUSIONS

This study analyzed the extent and the significance of causal relationship between development of financial system and economic growth in the Southeastern Europe countries in a period of time from 2002 until 2014. In order to understand the dynamics of finance-growth nexus in this region, the empirical investigation aim was to test if financial development has contributed in the growth of 10 developing and emerging SEE economies in the last decade and compare results with earlier studies. Conditioned from availability of data, the empirical analysis was performed using the panel data technique such as pooled OLS, fixed effects and random effects models. Obtained empirical results obtained show that financial

sector size, represented by Liquid Liabilities, is not statistically significant in relation to economic growth. The same applies to Assets Ratio and Banks Deposits indicators that theoretically measure structural functions of intermediaries in financial system to serve in pooling risks and accumulate savings. In contrast with these findings, statistically important in positively affecting growth appears to be the impact of Private Credit being measured and included in regressions independently under two indicators, domestic credit to private credit from all financial institutions and private sector financing from banks. Interpreting empirical results is possible to emphasize that financing private sector productive activities is an effective channel via which financial sector contributes in fostering economic growth in the short run in SEE economies. In addition, it is observed that crediting to private sector is primarily performed from deposit money banks. Interpreting the obtained empirical results is possible to state that financial sector expansion in SEE is not fully reflected in the economic growth process; despite this fact, signs of a positive relationship between financial development and growth in this region have started to emerge significantly.

Considering results obtained from this paper analysis in line with the conclusions of Mehl, Vespro and Winkler (2005) regarding the main legal and regulatory issues that impede qualitative development of financial sector in these economies, it seems that the implemented reforms in the financial sector during the last decade have started to qualitatively impact financial environment in SEE paving the way for creating proper conditions under which financial development would stand in a positive relation with economic growth. A representative sign on financial environment improvement is the significant explanatory link between private credit and economic growth obtained from empirical tests. The remaining gap in the finance-growth nexus is manifested through the absence of such correlation in the case of Liquid liabilities and Assets ratio.

In conclusion, financial development - economic growth nexus in the Southeastern Europe economies has started to become significant in a positive context, dynamically evolving due to quantitative and qualitative changes in countries' financial systems.

6.1 FOR FURTHER RESEARCH

Some issues to be considered for further research on finance-growth nexus in Southeastern Europe would be: investigation of business cycles off-setting effects on economic growth that for the time being in all sample economies is not possible due to data limitation; focus in understanding issues of exogeneity in causal factors between financial development and growth could be in focus of research projects for more accurate results in investigating this phenomenon; a sectorial analysis aiming to identify the main economic private activities through which finance affects growth and that depend on external financing sources would help to understand whether better financial development would affect the increase of productivity in SEE. Also, it may be further investigated whether the positive relation between private credit and economic growth is due to the absorption led growth model followed by the economies of the SEE region.

Still being a concern for these countries, availability of data to form the fundament for performing more reliable empirical tests is an issue in need of solution. The relation between financial development and economic growth in short as well as long-run needs to remain in policymakers attention in order to bring in full efficiency the potential of financial sector development in supporting economic growth in Southeastern Europe.

APPENDIX 1

Table 3 Summary statistics on Real GDP per capita growth rate and Conditioning set

	Variable	Mean Std. Dev. Min Max	Observations
GDP	overall	3.43012 3.418986 -7.270106 10.50517	N = 130
	between	.8137848 1.758868 4.525972	n = 10
	within	3.329989 -7.028118 10.92897	T = 13
INC	overall	5755.24 3236.732 1458.328 15887.42	N = 130
	between	2783.854 2923.884 12059.16	n = 10
	within	1856.746 -250.2035 9583.5	T = 13
GOV	overall	37.45995 7.71189 14.032 51.618	N = 130
	between	7.635825 24.26585 47.87931	n = 10
	within	2.567339 27.2261 45.43479	T = 13
TO	overall	81.47955 27.73901 25.85435 141.9924	N = 130
	between	24.97952 46.00116 110.3574	n = 10
	within	14.26606 42.13308 113.1146	T = 13
INF	overall	7.957454 5.749884 .59 48.134	N = 130
	between	3.564105 5.019308 15.50577	n = 10
	within	4.641118 1.071916 40.58568	T = 13
EDU	overall	7.8 .5193914 6 8	N = 130
	between	.4660746 6.538462 8	n = 10
	within	.2697201 6.876923 9.261538	T = 13

APPENDIX 2

Table 4 Summary of indicators description and data sources

Indicator	Acronym	Description	Source
Growth Rate	GDP	Real GDP per capita growth rate	World Bank Global Development Indicators
Liquid Liabilities	BM	Broad Money % of GDP	World Bank Global Development Indicators
Private Credit	DCPS	Domestic Credit to the Private Sector from financial institutions % GDP	World Bank Global Development Indicators
			Central Banks Statistics
Assets Ratio	CBAR	Commercial Bank Assets over the sum of Commercial Bank Assets with Central Bank Assets	World Bank Global Financial Development
			Central Banks Statistics
Banks Credit	BANK	Domestic Credit to private sector from banks % GDP	World Bank Global Development Indicators
			Central Banks Statistics
Bank Deposits	DEP	Total volume of deposits in the banking system % GDP	World Bank Global Development Indicators
			Central Banks Statistics
Income per capita	INC	Initial income per capita	World Bank Global Development Indicators
			IMF World Economic Outlook database
Government Size	GOV	General Government Total Expenditures % GDP	IMF World Economic Outlook database
Trade Openness	TO	Share of total volume of imports and exports over GDP	IMF World Economic Outlook database
			UN COMTRADE, Central Banks
Inflation	INF	Consumer Price Index (percent change)	IMF World Economic Outlook database
Average secondary schooling years	EDU	number of years in secondary school	World Bank Global Development Indicators

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