

Investigating the Nexus between Financial Development and Economic Growth in SEE 10 Economies

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Abstract

In a continuous challenge for increasing economic growth pace, Southeastern Europe economies need to explore all contributing channels to this process. Previous researches do not find a significant relation between financial development and economic growth in SEE countries but up-to-date analyses are missing in this front. This paper aims to investigate the finance-growth links in a representative group of ten SEE economies through empirically analyzing with panel data techniques the latest data available, and try to understand if implementation of financial regulatory frameworks and economic reforms during the last decade has contributed in 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 short-run in positively affecting economic growth. While Liquid liabilities and Assets ratio have no significance, seems that financial sector 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

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 in a time horizon 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 work 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 SEE Region. Main purpose behind paying a dedicated attention to the finance-growth nexus in this context is the effort to fill an existing gap in regional topical related economic literature caused from lack of recent similar studies containing updated, wide and inclusive analysis of this relationship in SEE countries.

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 positively impact growth. In the same theoretical line of thought also Levine et. al. (2000) stress out that application of the “best practices” on legal and accounting standards in 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 the reforms’ effects to bring in closer links development in financial sector and growth.

In a vacuum of empirical analyses exploring the latest data on finance-growth causal relation in the SEE economies, this research work aims to provide an empirical investigation of whether financial sector has started to positively influence growth and implementation of legal and financial sector reforms during recent years, has played a role in making financial development “matter” in supporting growth in a regional context of ten developing and emerging economies. 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 basing 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 aim 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 perspective when no civil conflicts have taken place allowing thus a consistent process of financial development. A novelty is the inclusion of Kosovo, as the newest country in SEE, and the reason behind this is its economic interrelation with other countries in a regional context and the relative ease in gathering the data taking advantage from its presence in all major economic databases.

The paper will be following this structure: in the first part will be offered a theoretical overview of economic benefits stemming from well-developed financial markets and intermediaries; further an extensive literature review will be made to summarize some of the most influential and referred works focusing on finance-growth relation starting from theoretical papers, general empirical studies and to finalize this part with SEE focused ones; third section will be describing data and methodology used for the empirical analyses followed by the obtained results and the final part will consist in drawing conclusions and recommendations for further researches.

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 operational base for the functioning of financial institutions. Referring to the World Bank sources where also some of the data of this research project have been taken from, 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 from the data availability on economies of the Southeastern Europe, for the empirical analysis are chosen five indicators to broadly and mainly quantitatively define financial sector development dynamics in the sample economies.

Economic importance of financial development

In a functioning market economy, financial intermediation process 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, has been many the theoretical and empirical research works that 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 economy as a whole.

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

Financial intermediary institutions play a vital role in crediting the private sector and the economy by applying interest rates that reflect the competitiveness and the 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.

By exercising their structural crucial role of pooling savings and allocating resources in the economy towards financially reliable economic agents less risky and promising for higher productive economic activities, the qualitative development of financial intermediaries further than guaranteeing households savings, becomes also decisive for the efficient operation of financial markets and thus serving to increased productivity of investment, the later 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 for higher productivity of human and physical capital.

Well developed, professional and ethic financial institutions are essentially important to prevent incremental risks that derive from the asymmetry of information and may result to be costly for the private sector among which moral-hazard and the

adverse selection risk. Providing the private sector with highly qualified expertise, financial intermediaries contribute in reducing risks coming from asymmetry of information in the economy.

Channeling and facilitating the access to financing resources for the whole range of individual and institutional customers, intermediaries play a vital role in the economy to create 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, symptoms present in cases 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 reduce the tax evasion phenomenon, as the main concern for public finances in developing economies, and optimize the mechanisms for efficient controlling frameworks on private sector operations.

Due to the economy of scale and free market competitiveness, banks but also other financial institutions become instrumental in reducing transactions costs for the economy and creating a more enabling environment for the business development in 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 state regulatory bodies that pave the way for better risk management attitudes in business environment and safer well-functioning financial markets.

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

Literature Review

The relationship between financial sector development and economic growth has always been in focus of economists' theoretical and empirical research analyses, in the form of contributing efforts trying to better understand and effectively utilize compounding effects and mechanisms of this economic phenomenon in favor of growth. Financial development process in itself has evolved on time as a result of more efficient and productive financial markets and their incremental influence on growth. Many research projects have taken place from time to time, shedding light on the importance of financial intermediation in fostering economic growth and vice –versa. Some of them are theoretical persuasions with significant influence in further understanding the finance-growth nexus and in other cases theoretical points of views are tested through empirical analyses in order to understand whether theory is sustained by robust evidences in different samples of choice. This literature review, aims to bring a perspective of the main influential research works done in this field in a structured way. In the first subsection will be made a mosaic of theoretical papers emphasizing their specific contribution in analyzing the financial development-growth relation, afterwards will be brought in the reader's attention empirical results that different authors have obtained by testing the finance-growth nexus hypothesis in general groups of countries and finally, given the dedicated aim that this paper has in analyzing and understanding the phenomenon in a group of Southeastern Europe economies will be made a summary on the papers 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. For Schumpeter, entrepreneurs are at the epicenter of creating and raising to success the "new

combinations”, innovations in the markets that through the credit provided by intermediaries’ mechanisms of credit shape a growing competitive business environment of firms that exponentially serve as engines for the economic growth. In his view, the economic development is a genuine process fostered by innovations as well as optimal management of the firms by entrepreneurs and should be financial intermediaries to finance successful market initiatives in order to increase profits and benefit to the 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. Loans provided by intermediaries are considered essential to finance efficient productive processes that eventually generate surplus in firms’ financial state. Inventions that are feasible in production terms are seen as positively supportive to efficient growth of production firms. 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”. Accepting the asymmetry of information in the market and looking intermediaries as instrumental in smoothing the information frictions between different market agents, in equilibrium intermediaries appear in the form of coalitions that make possible to indicate a feasible Pareto optimal allocation of resources in the market that can create stable equilibrium conditions for maximizing agents utility.

Robert Lucas in his influential work of (1988) brings a deep analysis of processes and important factors that affect or stand behind the explanations of mechanics of economic development and growth. He focuses in improving the neo-classical growth model adding to the conceptual framework two valuable extensions, the first explores the interaction between physical and human capital accumulation and the second one the way how specialization of human capital impacts international trade and economic development, on a general aim of putting human capital in a central stance in the “mechanics” of the growth model. Lucas manifests a skeptical belief on the real importance that financial sector development has in fostering economic growth. In his economic judgment, research professionals and non-professionals in favor of this proclaimed relation simply “over-stress” the relevance of financial intermediation in inducing faster pace of growth. Despite being an empirical paper in itself, his views on the relation of financial development and growth are not empirically tested or sustained, thus here they are considered to be theoretical. 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. Economic development is described as a joint causality between financial intermediaries expansion and positive economic growth, accompanied by a declining income inequality while the economy reaches the “maturity stage”. Their contribution consists in introducing a system of rules in which financial intermediation and economic growth are endogenous by determination and emphasizing the crucial importance of banks, insurance companies and other financial intermediaries in providing to economic agents their expertise for properly analyzing the market information in order to optimize the allocation of funds towards higher returns and minimize risks. The model they pose consisting in a binary choice to invest the capital between a safe low yield technology and a risky high return one, takes into account two primary influencing ways via which intermediaries enhance the economic activity, by facilitating increased returns to agents based on a well-diversified investing activity and pooling risks given their extensive outreach in financial market. The economic logic behind the model is that individual agents channeling their funds through financial intermediaries can benefit from higher returns as result of increased productivity of investments. Greenwood and Jovanovic show that there exists a competitive equilibrium in the market that in case reached through the specified model of economic agents and financial intermediaries, the resources allocation is Pareto-optimal.

Bencivenga and Smith (1991) aim at shaping an equilibrium model by structuring the channels through which competitive financial intermediaries’ (*banks*) development influences an optimal resources allocation in economy that positively affects for higher real economic growth rates. They follow quite an interesting approach in arguing theoretically that the competitive development of banks has a positive impact in economic growth through the effects of “spillover externalities” resulting from increasing rates of return on capital investments and consequently growing productivity, considering that competitive financial intermediaries as deposit money banks, tend to allocate resources to the most profitable investment opportunities favouring in this way the creation of an enabling environment in support of incremental rates of return on capital. But on the other hand, the rush of economic agents towards higher rates causes the reduction of savings in economy, less resources accumulation in intermediaries and as result a potential drop in financing power of deposit money banks eventually causing a slow-down in the growth pace, if this continues in long run. Making an overview of the theoretical and empirical research works on finance-growth relation, Pagano (1993) brings in evidence unresolved issues so far relating with this phenomenon. He emphasizes that despite the fact that usually is seen a positive finance-growth relation in the literature, part of the

researchers attention need to be also the cases when financial development affects negatively the savings rate and as consequence of lower resources channeled through intermediaries growth slows. In addition, still remain unclear the reasons why in some economies, the fast growth of financial development is companied by standard monotonous rates of economic growth. In conclusion for obtaining better understanding on specific financial market-growth causality is needed to focus primarily on specific markets of interest given the fact that different economies manifest different characteristics conditioning thus the relation in focus of this study.

3.2 Empirical research on general groups of countries

The extensive theoretical work done over time in investigating the economic relation between financial development and economic growth has opened horizons for further and more accurate elaboration of econometric methodologies in testing this phenomenon. 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) aim to investigate if higher financial sector development is causal for higher present or future rates of economic growth or as posed by them, empirically test whether Schumpeter was right in his views on the paramount importance of intermediaries to foster growth. Their study is based on a wide sample of 80 countries in different development stages for a period of time from 1960 to 1989. Trying to reach a broader definition of growth, authors set three growth variables that in addition to economic growth rate feature also productivity improvement and capital accumulation while on the other side, explanatory variables defining financial development are chosen four, broadly used financial depth measures of liquid liabilities over GDP and financing of financial and private non-financial firms over total credit and GDP. To understand the relative importance of deposit money banks in crediting the economy King and Levine use the ration of commercial banks assets volume over the sum of commercial and central bank assets in respective economies. Empirically they find a significant positive relationship between the financial sector development and economic growth in the wide sample of developed and developing economies, going further in concluding that in the development of financial sector lays also the key to predict future rates of growth in coming 10 to 30 years given this robust positive relationship. Still King and Levine study finance-growth relation only in one and not in both ways.

Rajan and Zingales (1996) aim to go deeper in analyzing the relationship between financial development and economic growth by focusing on the external funding interest rate. Following the logic that industry sectors and firms whose business activity depends on external funding, should be better functioning in markets where financial development is at higher quantitative-qualitative stages since in principle these markets feature lower external funding interest rates being more open and competitive than less developed ones, authors consider it a proper economic indicator in trying to understand if higher development in financial markets tends to low external funding interest rates for certain sectors and thus creates an enabling environment for the later to faster develop while positively contributing to growth in economy. Their sample on which empirical tests are run consists in 43 countries for a time period from 1980-1990. Robust results 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. Rousseau and Wachtel (1998) try to put the relationship between financial intermediation and economic performance in a historical context and deepen the analysis by running tests on a large historical sample of data, 1870-1929, for five world major economies U.K., U.S., Canada, Norway and Sweden obtaining results that support evidences for the positive impact that development of financial intermediation has played in the fast industrialization of these countries. 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, focus on a group of 47 countries where good quality stock markets data are available in a period of time from 1976 and 1993. Results of cross-sectional analysis in sample data show for 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. Interpreting the results, it is evident that financial development has a significant impact in supporting growth, but as explained by the authors, well developed banks and stock markets supply economic agents with complementary services jointly contributing in financial development and economic growth.

Levine, Loayza and Beck (2000) make a significant contribution in the economic literature focused on investigating the determinants and role of financial intermediaries' development on growth. Aiming to find alternative theoretical and empirical ways to understand this phenomenon with the ones evidenced by other authors so far, in addition to testing the financial

development-economic growth relation, they extend the focus of analysis on the influence that exogenous factors determining financial development have on the economic growth. So in their analytical viewpoint they try to understand and empirically test if legal frameworks and accounting standards exogenously determine the quality of financial intermediaries' development and consequently account for affecting economic growth. Authors test empirically their hypothesis on a sample composed by 74 countries of different development stages for a period of time from 1960 to 1995 using the same variables used by King and Levine (1993) to test the finance-growth nexus with a slight difference in choosing the private sector credit provided by financial institutions and not the general domestic credit, aiming to pay more attention to banks and other intermediaries by keeping out of the analyses the credit provided from state monetary authorities. Dynamic panel data tests provide robust results in support of a positive relationship between the exogenous factors of financial intermediaries' development and economic growth. Authors conclude that enforcement of legal and accounting frameworks by implementing "best practices" contributes exogenously in the consolidation of a sound development of financial intermediary sector, favour the creation of a business enabling environment and positively supports economic growth.

Amid two mainstream theoretical viewpoints in economic literature regarding the economic effect of financial intermediaries liberalization on growth, on one side is the study that increased financial depth paves the way for continuous financial development which is followed by economic growth and on the other side economists think that un-controlled prolonged liberalization may become the cause of eventual banking crises, Loayza and Rancuere (2005) try to position themselves in the economists debate by supporting their views on the obtained results from an empirical analysis run for a sample of 75 countries, annual data over a period of 40 years from 1960 to 2000. They find that in long run, increased financial depth and further financial sector liberalization contribute in financial development that stands in a positive relationship with economic growth, while in short-run for troubled economies, typically after post crisis, financial intermediation liberalization and depth do not contribute in impacting growth. Greenwood et. al. (2012) in the first part of their work deliver a firm level analysis putting an accent in the importance of information for the well-functioning, financial performance and efficiency of intermediaries' activity, the earlier seen related to the technological stance as well as human and physical capital accumulation in the financial system. In the second part they focus on economies, taking the example of US as a well-developed financial intermediaries' market, and basing on it developing a sort of benchmark parameters on the "best financial practices" that are applied to a cross-sectional analysis of 45 countries of different development stage. Greenwood et. al. conclude in an impressive result that 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 percent, under the assumption that financial markets enhanced by higher productive intermediation channels would boost economic growth.

3.3 Financial regulation importance for qualitative financial development

In order to focus more on the soundness of financial systems and the quality of intermediaries' market development as essential for making a positive impact of economic growth, this subsection will be dedicated to the role that financial regulation has in financial sector consolidation. Financial regulation stands at the forefront of the sustainable and solid development of financial sector and 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 that are basic for the analysis aimed by this paper.

In this perspective, Rojas-Suarez (2004) studies a wide sample of developing economies and reaches the conclusion that financial regulations implemented in these economies need to respond in a proper manner to all their financial markets 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 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 policymakers should aim to design and tailor regulatory frameworks that allow vibrant completion in financial intermediation sector without increasing systemic risks. Following the 2008 financial crises, among regulators was reopened the debate whether de-regulation was good for financial markets and in line with this, 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 in economic growth. Sinha et. al. (2011) make a deep analysis of the positive and important effects that continues financial regulation has in consolidating and further developing the banking sector and the financial sector as a whole by bringing vast evidences in support of this

widely accepted economic study and emphasizing the positive impact that soundness of financial sector has on economic growth.

Overall, economists consider that good financial regulation basing on international generally 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 the Southeastern Europe, it is of topical interest to dedicate some specific attention to the research works made so far in investigating the financial development – economic growth relationship in developing countries given the fact 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 based in developed countries regarding a main general positive relation between financial development and growth but 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 provided summary aims to offer a diverse mosaic of findings in this frame.

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 that show for a two-sided causality between financial development and growth concluding that the development of financial sector in these economies contributes in 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 long run testing through panel unit root and cointegration econometric techniques, while in 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 long-term perspective. In addition to financial development indicators, in the paper of Ahmad and Malik (2009) domestic capital accumulation affecting workers productivity is seen as a significant factor in contributing to promote economic growth more than foreign capital while the later being a follower of domestic capital. Trade openness is also found to be positively significant in enhancing economic growth in panel of 35 developing economies for the years 1970-2003. In the same line of findings follow also the research work by Estrada et. al. (2010) who analyze through panel data techniques a sample of 116 Asian developing economies from 1987 to 2008. Results reveal that financial deepness counts more for supporting growth in the countries of the sample than the structure of financial system. They put an accent also on the instrumental role of financial openness as a positive relevant factor for growth, which according to authors 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, finding that stock markets and banking sector are closely joint 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 long-run but going further in analyzing a group of 168 low and middle income countries in a time frame 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 as World Bank and IMF towards the better understanding of financial development and growth paths of the Southeastern Europe economies. And 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 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” that the region witnessed during '90-es. 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 Southeastern Europe economies as a precondition for creating an enabling environment that would in long-run lead to a positive causal relationship between financial development and economic growth. Caporale et. al. (2009) analyzing the group of 10 newest countries joining European Union, of which Romania and Bulgaria considered in SEE, find a positive causal effect that financial development has 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, but an interesting finding of this study is that different scale of economic development in SEE countries determines 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 long run empirical results confirm a positive relation between the two while in short-run the results remain ambiguous. Koczan (2015) highlights that Western Balkans economies continue to be vulnerable in different sectors because of being depended from the economic development of their neighbor economic and trade partners, while high public deficits and debt levels still remain a public finances challenge for the region.

4. Data and Methodology

4.1 The data

Southeastern Europe as a region, consists in a group of developing and emerging economies some of which have already joined EU and others aiming to be part of the European common market while undergoing a prolonged integration process form years 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, or the research works done 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 a period of time covering years 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 in this field extensively 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 GDP¹, this variable describes the size of financial system but a main concern regarding its accuracy is that does provide information on the quality of intermediaries' development. This indicator from now and on will appear as Liquid Liabilities in the analysis and under the acronym BM in Appendixes or related working files.

¹ where 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

Aiming to identify further the degree of financial development and the credit expansion in the sample economies, a second indicator to be included in analysis is the Domestic Credit to Private Sector over GDP, measuring financing from private financial intermediaries excluding the Monetary Authorities towards the private sector. The economic logic behind this variable is that private sector plays a crucial role in growth process 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 the fact that in Southeastern Europe 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 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 Assets Ratio while the acronym will be CBAR standing for Commercial Bank Assets Ratio.

Following the main three variables in use to determine the financial development in financial system as a whole, on the purpose of understanding the significance that intermediaries role has 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 which 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.¹

4.1.2 The dataset

Given the dedicated focus of this study which is to investigate the financial development-growth relationship in the 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 part or aim to join European Union, and different 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 also 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.

In an annual frequency, the data are collected for 13 years period of time starting from 2002 until 2014. This applies to the data on Growth, Liquid Liabilities, 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 from 2002-2011 for all the sample countries. The two other variables representing financial intermediaries' activity, Private credit from banks and bank deposits over GDP data are respectively included in the dataset covering

¹ 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.

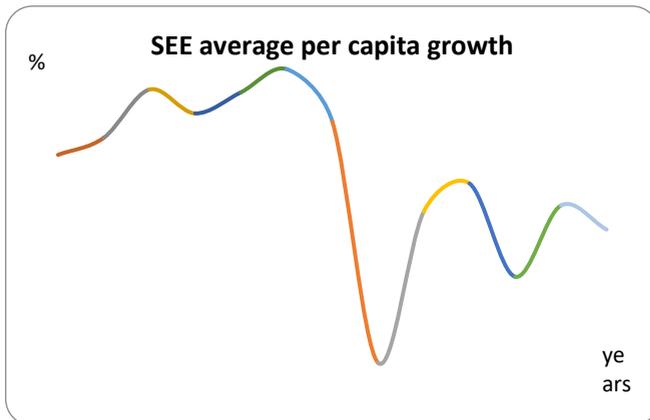
periods 2002-2014 and 2002-2013 depending on availability. Main sources of data utilized to create the dataset are the two databases of the World Bank, World Development Indicators and Global Financial Development Indicators, Central Banks Statistical Offices, International Financial Statistics of IMF (Financial Access Survey), World Economic Outlook, UN Comtrade, Federal Reserve database and National Institutes of Statistics sources.¹ The frequency of data is annual.

	<i>Liquid Liabilities Broad Money % GDP</i>	<i>Credit to Private Sector % GDP</i>	<i>Comercial - Central Bank Assets Ratio</i>	<i>Credit from provate banks % GDP</i>	<i>Bank Deposits % GDP</i>
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

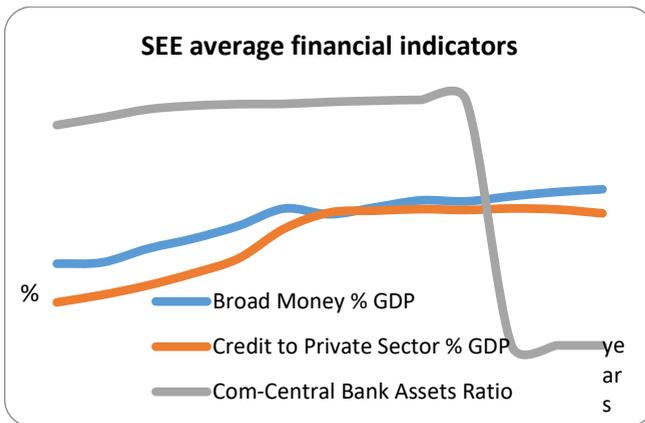
Table 1: Main indicators' data description

Referring to the above average SEE indicators graphs 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 while liquid liabilities have seen a light increase during the same period and in the same path has been also the upward movement of commercial to central bank assets ratio.

Graph 1: SEE financial development indicators and growth averages trends



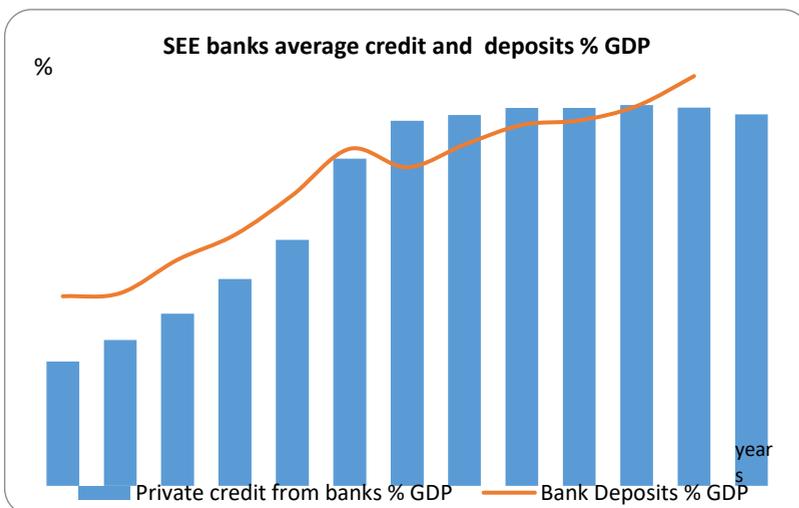
¹ Trade Openness is calculated from UN Comtrade data following the broad definition of TO (imports+exports volumes) over GDP. In some cases, like the Assets Ratio for Kosovo, time series are calculated by the author basing on the data collected from the Central Bank of Kosovo regarding Commercial Banks and Central Bank Balance Sheets.



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

In the other graph, average per capita real GDP growth in Southeastern European countries has plummeted in 2009 due to crises effects (well described in the Panagiotou 2012) and is also possible to see in graph the decline in growth rate during 2012, year when the sovereign debt crises reached its peak in Greece and Italy, main trading partners for most of the countries in the SEE negatively affecting growth. Graph 2 illustrates the average trends of private credit disbursed by banks in SEE countries and banks' deposits as percent 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 from 2008 onwards. This phenomenon in 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 deposits¹.

Graph 2: SEE banks credit to private sector and bank deposits (percent of GDP)



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

¹ Bank of Albania Economic Bulletins 2013

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

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 under study 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:

$$R.GROWTH_{it} = \alpha + \beta FIN.DEV_{it} + \lambda\{CONDITIONING SET\}_{it} + \varepsilon_{it}$$

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 and the conditioning set consisting 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 crises dummy. Apart from the rate of GDP growth per capita and average years of schooling other variables enter regressions in a log-linear form¹. 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.²

Results

Empirical results obtained from panel data techniques investigating the relationship between financial development and economic 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 specific are found empirically significant in the analysis as result of econometric tests, while does not happen the same with other variables Liquid liabilities, Assets ratio and Bank deposits over GDP that despite the positive coefficients do not manifest a strong explanatory significance on rate of growth.

As possible to see the econometric results of tests run 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.

¹ Inflation enters the regression as $\log(3+\text{variable})$ in order to skip missing data that would result in negative values.

² 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.

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 form

^a inflation enters the regressions as $\log(3+\text{variable})$ for linearization purposes

Results from pooled OLS and random effects tests can be found in the Do File provided. 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 table¹, 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 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

¹ Please notice that the full set of econometric tests results are provided in the Do file.

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, is needed to be taken in consideration when reading these results the quality and the frequency of data that do not favour a further optimization of econometric analysis.

Discussion and Conclusions

This paper analyzed the extent and the significance of causal relationship between development of financial system and economic growth in the Southeastern Europe countries in the period from 2002 until 2014. The empirical investigation aim was to test if financial development contributes in the growth of 10 developing and emerging SEE economies that compose the study sample in order to understand the dynamics of finance-growth nexus in this region by comparing results with earlier studies. Conditioned from availability of data, the research was performed using panel data methodologies such as pooled OLS, fixed effects and random effects models. Empirical results obtained show that financial sector size, represented from 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 in this point is possible to emphasize that financing private sector productive activities is an effective channel via which financial sector contributes in fostering economic growth in short-run SEE economies. In addition, 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, but despite this fact, signs of a positive relationship between financial development and growth in this region have started to emerge significantly.

Considering the 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, seems like 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 growth obtained from empirical tests, while 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 relationship with economic growth in Southeastern Europe has started to become significant in a positive context, dynamically evolving due to quantitative and qualitative changes in countries' financial systems. In order to enhance this process, policymakers in the region need to efficiently continue to implement the needed reforms aiming for the adoption of the "best financial practices" for increasing efficiency and further consolidate financial sector soundness in compliance with regulatory frameworks, thus creating the preconditions for facilitating the enhancing effect of financial development to be reflected in economic growth.

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 remains to be investigated if the positive relation between private credit and economic growth is due to the absorption led growth model followed by the economies of the Region.

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