

A COMPARATIVE EMPIRICAL ANALYSIS OF FINANCIAL DEVELOPMENT INDICATORS BETWEEN TRANSITION ECONOMIES AND DEVELOPED ONES

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Abstract: This paper carries out a comparative analysis of the degree of financial development between transition economies and developed ones based on variables that indicate the direct and indirect degree of financial development. To determine the way the financial systems works and the level of its development, the authors have taken into account four general characteristics of financial institutions and financial markets which were measured for the financial institutions (mainly banks, which are the most important financial institutions in most economies in transition, insurance companies and other financial institutions) as well as for the financial markets, thus leading to a 4x2 matrix of the main characteristics of the financial system. The analysis was developed based on the data found on the Global Financial Development database of the World Bank. Empirical data and authors' analysis were used to characterize and compare financial systems between countries with economies in transition and developed countries for the years 2008 – 2011. The year 2011 was the last year of available qualitative data for many countries in the Balkan Region such as Albania, Kosovo and Macedonia.

Keywords: economy in transition, financial sector development, economic growth, 4x2 matrix

INTRODUCTION

To measure and benchmark financial systems were taken into account four general characteristics of financial institutions and markets: (1) the size of financial institutions and markets (financial depth), (2) the extent to which individuals use financial institutions and market (access), (3) the efficiency in providing financial services (efficiency), and (4) the stability [World Bank 2012]. These four

characteristics are measured both for financial institutions and financial markets (equity and bond markets) thus leading to the formation of a 4x2 matrix of characteristics of the financial system [World Bank 2012]. The paper then uses this matrix to provide a more complete reflection of the degree and structure of financial systems development.

From extensive research has been proven that no model can fully capture all features of the financial systems, however by using the characteristics such as depth, access, efficiency, and stability, we are very close to capturing most of the features that many empirical literature have been focused on. Empirical data and authors' analysis were used to characterize and compare financial systems between countries with economies in transition and developed countries for the years 2008 – 2011. The year 2011 was the last year of available qualitative data for many countries in the Balkan Region such as Albania, Kosovo and Macedonia. The Global Financial Development Database used for this study is available on the official website of the World Bank. The paper, however, goes beyond just analyzing the data. It aims to answer some fundamental questions by using the available data. In this paper the authors address the following questions: How can various characteristics of financial systems be empirically evaluated based on indicators that show the directly and indirect degree of financial development? How can you benchmark financial systems between economies in transition and developed ones?

This paper is structured as follows: It begins with the literature review followed by arguments on the role that the financial system plays in economic growth. Then it continues with an overview of the economies in transition by analyzing common characteristics of their financial systems. Furthermore, it continues with the quantitative analysis of the key factors of the financial system which cover the four characteristics selected for this study. The quantitative analysis will be conducted for the financial institutions as well as for the financial markets in order to give life to a comparative framework which is widely used as a strategy to empirically characterize financial systems and to document its development. The 4x2 matrix and the database of global financial development will be further used to answer the two research questions raised in this study and to analyze and benchmark 18 countries with transition economies (where 8 selected economies are Central European countries and 10 selected economies are South-East European) with the top 5 positioned economies based on their degree of financial development.

LITERATURE REVIEW

A growing body of evidence suggests that financial institutions (such as banks and insurance companies) and financial markets (including stock markets, bond markets, and derivative markets) exert a powerful influence on economic development, poverty alleviation, and economic stability [Levine 2005]. Hence,

if these functions have a negative performance it may lead to a lower level of economic growth, reduced economic opportunities even to economic instability.

Although the evidence on the role of the financial system in shaping economic development is substantial and varied, there are serious shortcomings associated with measuring the central concept under consideration: the functioning of the financial system. Researchers do not have good cross-country, cross-time measures of the degree to which financial systems

1. enhance the quality of information about firms and hence the efficiency of resource allocation,
2. exert sound corporate governance over the firms to which they funnel those resources,
3. provide effective mechanisms for managing, pooling, and diversifying risk,
4. mobilize savings from disparate savers so these resources can be allocated to the most promising projects in the economy, and
5. facilitate trade [Cihak et al. 2013].

Instead, researchers have largely, but not exclusively, relied on the complexity and degree of development of the banking sector.

But, the degree of the development of the banking sector not a measure of quality, efficiency, or stability itself. And, the banking sector is only one component of the financial system.

Given that financial development is defined as a process involving the interaction of many activities and institutions to improve the quality, quantity and efficiency of financial intermediation, then its measurement by using one indicator is impossible.

FINANCIAL DEVELOPMENT CONCEPT AND ITS LINKS WITH ECONOMIC GROWTH

In the economic model of general equilibrium developed by Arrow-Debreu [Arrow 1951, Debreu 1951, Arrow, Debreu 1954], built on the basis of certain unrealistic assumptions, financial intermediation is not necessary, but it becomes important when the model approximates the real world, which is characterized by economic exchange. Since the models are fancy simplification of reality, no comprehensive theoretical model can explain the existence of financial intermediation [Khan, Senhadji 2000]. Giving that financial intermediary facilitates the allocation of funds in space and time, it is important to consider the relationship that exists between financial development and economic growth.

Regarding the nexus between financial development and economic growth, Schumpeter [1912], argued that banks can facilitate financial intermediation and stimulate economic growth by selecting entrepreneurs that offer the most innovative and productive projects. Furthermore, Robinson [1952], King and Levine [1993], found positive effects of financial sector development on growth.

Other studies have also found a positive effect of financial development on economic growth, however, this connection is often dependent on some particular economic conditions. For example, it was found that this relationship is positive only when inflation is below 5% [Rousseau, Wachtel 2002]. It was also proven that their relationship is weaker in developing countries and might have weakened further over the years [Rousseau, Wachtel 2011].

From the arguments raised by different authors such as Levine [2005], Demirgüç-Kunt and Levine [2008], we can conclude that the majority of evidence suggests a positive relationship, a deliberate, between financial development and economic growth. In other words it means that financial systems that work well, play an independent role in promoting long-term economic growth because economies with a better developed financial system tend to grow faster for longer periods of time.

Despite various institutional contexts of transition economies, few studies have had their focus on the effects that a developed and more efficient financial system has on these countries. In a study was pointed out that the margin between lending and deposit interest rates negatively and significantly affected growth, but the size of the financial sector had no effect. [Koivu 2002]. In another study, which involved 11 countries of Central and South-East Asia, was found that financial intermediaries have contributed to economic growth and the domestic credit has played a key role, but private credit and stock market capitalization were not important. [Fink, HAISS and Vuksic 2009]. There were other studies, that have analyzed also the impact of foreign direct investment in transition economies, but the latter, together with the two studies mentioned above, have failed to carry out a comparative analysis of the degree of financial development between transition and developed economies based on indicators that show the direct or indirect degree of financial development.

FEATURES OF THE FINANCIAL SECTOR IN TRANSITION ECONOMIES

The Reform of the financial sector for the countries of Central and South-Eastern Europe has started from the banking sector. The transformation of the banking sector has been one of the key aspects of the transition process from a planned economy to a market economy. Originally a fully controlled sector, the banking sector was quickly turned into one of the most dynamic sectors of the economy.

Despite that the inherited structures of these countries have much in common, there were found also significant differences. Since the 1990s, the Central and South-Eastern Europe countries have made substantial progress in the creation and reform of their financial markets and institutions which, under the prior Communist regimes, were limited to allocating funds passively to firms

according to a central plan. Although the inherited structures of these countries shared many similarities, important differences did exist. For example, enterprises in Hungary, Poland and the former Yugoslavia were given some degree of independence in their decisions and there were even some private firms. Monetary holdings and trade credit were also allowed. The situation was vastly different in countries such as Bulgaria, Romania and the Soviet Union [Coricelli 2001]. During the first years after the fall of the Communist regimes, state-owned banks were freed from the influence of the Central Bank and a large fraction of their non-performing loans was written off. [Liebscher et al. 2007]. Later the banks were restructured and privatized, thus creating commercial banks and banks with foreign capital.

Banks with foreign capital began to grow significantly during 1998 and 2000 occupying a weight of 60-90% of the banking system in these countries [EBRD 2012]. For example, by the end of 1998, Albania had 10 second level banks licensed by the central bank, among which were two entirely state-owned banks, the Saving Bank and the National Commercial Bank, marking the beginning of the new two-tier banking system during 1992. Moreover, foreign ownership brought technological and managerial improvements, economies of scale, and arm's length relationships between the financial sector and industry. It also reduced the concentration of economic power in banking markets [Liebscher et al. 2007].

The liberalization of the banking system encountered a series of problems. Ineffective bankruptcy or contracting laws and the lack of enforcement mechanisms and adequate collateral guidelines often led to soft budget constraints for former state-owned firms and to moral hazard problems on the managers' part. Although bank privatization and foreign ownership can harden budget constraints, some soft budget constraints continued even after the reform of the financial sector [De Haas 2001]. Even today there are several challenges to building a sustainable financial system in transition economies, such as the strengthening of prudential supervision; improvements in risk management both for individual institutions and for supervisory institutions; improvements in transparency and performance of financial activities and market discipline; and improvements in the effectiveness of the legal framework.

DATA AND MODEL SPECIFICATION

Financial systems are multidimensional. Initially, for the purposes of this study, we define what we mean by the term transition? In a broad sense, transition means the liberalization of activities, price, operations of a market economy, together with the reallocation of resources in order to use them in a more efficient manner, the development of market instruments oriented for macroeconomic stability; achieving an effective management and economic efficiency of enterprises, usually through privatization; imposing budget constraints, which provide incentives for efficiency improvements; and creating a legal and

institutional framework to ensure property rights, rule of law and transparent rules on the functioning of the whole system.

To capture the key features of financial systems, one would ideally like to have direct measures of how well financial institutions and financial markets:

1. produce information ex ante about 6 possible investments and allocate capital;
2. monitor investments and exert corporate governance after providing finance;
3. facilitate the trading, diversification, and management of risk;
4. mobilize and pool savings;
5. ease the exchange of goods and services.

So, if measurement was not an issue, one would like to be able to say that in terms of producing information about possible investments and allocate capital, the financial sector in Country A, for example, scores 60 on a scale from 0 to 100, while Country B's financial sector scores 75; in terms of monitoring investments and exerting corporate governance after providing finance, Country A scores 90, while Country B scores only 20 on a scale from 0 to 100, and so on. But, researchers have so far been unable to obtain such direct measures of these financial functions [Cihak et al. 2013].

Taking into account these features and the above presented expose', for the purposes of this study we analyzed the data provided from Global Financial Development Database for 23 economies, among which 18 countries were transition economies, namely: Bosnia and Herzegovina, Bulgaria, Estonia, Hungary, Croatia, Kosovo, Latvia, Lithuania, Montenegro, Macedonia, Poland, Cyprus, Romania, Serbia, Slovakia, Slovenia, Albania and Turkey; and 5 economies were the top positioned economies based on their degree of financial development., namely: UK, France, Germany, Japan, and the United States.

The model used in order to give a quantitative value on the functioning of the financial systems was based on the methodology used by the World Bank in drafting some of its financial development reports.

Hence, by taking into account 4 characteristic of financial institutions and financial markets, namely:

1. the size of financial institutions and markets (financial depth),
2. the extent to which individuals use financial institutions and market (access),
3. the efficiency in providing financial services (efficiency), and
4. the stability.

These four characteristics were measured for the financial institutions as well as for the financial markets can capture a special dimension of the financial system and are closely linked together. In other words, the analysis of only one feature, such as financial stability for example is not sufficient. The data used for this study was found on the official webpage of the World Bank, which has an extensive database on the characteristics of the financial system for the 203 economy during 1960 – 2011. This constitutes the most complete and updated financial indicators for countries with economy in transition.

DATA ANALYSIS AND RESULTS

Financial depth

Referring to the model uses by Cihak et al. regarding financial depth, the variable that has received much attention in the empirical literature on financial development is private credit to GDP. More specifically, the variable is defined as domestic private credit to the real sector by deposit money banks as percentage of local currency GDP. The private credit, therefore, excludes credit issued to governments, government agencies, and public enterprises. It also excludes credit issued by central banks which makes it especially convenient to study in these countries [M. Cihak et al. 2013]. The ratio of private credit to GDP varies between different countries and is closely correlated with the income level of the country. The second variable taken into consideration is the ratio of broad money M3 to GDP. This ratio is inspired by the work of Levine [1997]. Following this logic Hassan and Jung-Suk [2007] used the ratio of M3 to GDP as a variable to measure financial inclusion or better depth, arguing that the indicators M1 and M2 are weak variables for economies without a fully developed financial system, where the Broad money on GDP ratio is high because money is used in its function as a store of value in the absence of other more attractive alternatives.

For financial markets, in the database, financial market depth is approximated using a combination of data on stock markets and bond markets. To approximate the size of stock markets, a common choice in the literature is stock market capitalization to GDP. For bond markets, a commonly used proxy for size is the outstanding volume of private debt securities to GDP. The sum of these two provides a rough indication of the relative size of the financial markets in various countries [Cihak et al. 2013].

From the data analysis carried out by the authors regarding financial depth in 23 countries it results a very high percentage of financial depth in developed countries. The interval values of this indicator are 42.4 - 81.3% for these countries. This percentage can be attributed to a higher level of private credit to GDP. The transition economies, except Cyprus, are positioned below the range of the above mentioned interval. However, the high ratio of private credit to GDP is not necessarily a good thing. In fact, in all five countries with the highest level of private credit to GDP, such as (UK, Japan, Cyprus, Germany, France and the United States) the banking sector crisis of 2008 – 2009 was felt considerably compared to countries with lower level of the indicator such as the countries with transition economies. It's understandable that this fact is mutually connected with the degree of financial depth of these countries.

Financial access

According to the model used by [Cihak et al. 2013], better functioning financial systems allocate capital based more on the expected quality of the project

and entrepreneur and based less on the accumulated wealth and social connections of the entrepreneur. Thus, to develop informative proxies of financial development, it is useful to move beyond financial depth and also include indicators of financial access — the degree to which the public can access financial services. As with the other measures, both financial institutions and financial markets are examined. [Cihak et al. 2013]. In relation, a widely available variable is the number of bank accounts per 1,000 adults. Other variables in this category includes: the number of bank branches per 100,000 adults, the percentage of all firms with line of credit, and the percentage of small firms with line of credit. When using these proxies, one needs to be mindful of their weaknesses. For example, the number of bank branches is becoming increasingly misleading with the move towards branchless banking. The number of bank accounts does not suffer from the same issue, but it has its own limitations. In particular, it focuses on banks only, and does not correct for the fact that some bank clients have numerous accounts [Cihak et al. 2013]. Considering the limitations of each variable, for the purposes of the analysis, the authors have consider the number of bank accounts per 1,000 adults. The data regarding this financial access dimension of the Global Financial Development Database come from the established Financial Access Survey database (fas.imf.org), which is based on earlier work by Beck, Demirgüç-Kunt and Martínez Pería [2007] and currently contains annual data for 187 jurisdictions for the period 2004 to 2011.

The data used to measure access in financial markets were relatively limited. The model, to approximate access to stock and bond markets, measures of market concentration are used, the idea being that a higher degree of concentration reflects greater difficulties for access for newer or smaller issuers. In this regard the variable used by the authors is the percentage of market capitalization outside of top 10 largest companies to total market capitalization.

Because the data on access to financial markets are relatively more scant, in order to have an estimated data of financial access for the missing data the authors have used the linear interpolation method taking into account the degree of economic development and the trend of the indicators historical data, without affecting the specific weight ratio between countries. Also for this characteristic, the 5 developed countries were better positioned compared to the other countries. The interval values of this indicator for transition economies are 30.3 - 50% and 45 – 72 % for the developed ones. Referring to the data, Turkey (50%) is better positioned than France (45%) although it has a transition economy. Interestingly, the difference between developed economies and developing economies is not as large as for some of the other indicators in the database.

Financial efficiency

For intermediaries in the model [Cihak et al. 2013] efficiency is primarily constructed to measure the cost of intermediating credit. Efficiency measures for institutions include indicators such as overhead costs to total assets, net interest

margin, lending-deposits spread, non-interest income to total income, and cost to income ratio. Closely related variables include measures such as return on assets and return on equity. While efficient financial institutions also tend to be more profitable, the relationship is not very close. For example, an inefficient financial system can post relatively high profitability if it operates in an economic upswing, while an otherwise efficient system hit by an adverse shock may generate losses.

For this study the authors have consider a variable that reflects the extent of competition in banking and finance. The net interest margin which is the difference between the interest income generated by banks or other financial institutions and the amount of interest paid out to their lenders, reflects the bank intermediation costs and their growth rates which gives us information regarding the bank efficiency and market competitiveness.

Saunders and Schumacher [2000] point out that although the ex-Communist countries have made progress, their interest rate spreads were still relatively large when compared to Western European countries. Lower interest spreads could reflect more competition in the banking sector, better contract enforcement, efficiency in the legal system and a lack of corruption [Demirgüç-Kunt and Huizinga 1998]. However, relatively large spreads may insure a higher degree of stability for the financial system, adding to the profitability and capital of banks and better protecting them against crises.

For the financial markets, the variable used for in this study is stock market turnover ratio expressed as a percentage. This variable, in the model is calculated as total value of shares traded during the period divided by the average market capitalization for the period. The authors choose this indicator because a high level of this indicator implies a high level of liquidity which allows the market to be more efficient. As in the above two characteristics analyzed, developed countries have higher levels of this characteristic with an interval in the range 67 – 86.4%, compared to the countries in transition. Followed by a higher value of this characteristic for the European Union countries compared to other countries. The latter comes as the result of legal and regulatory framework of the *Acquis Communautaire*.

Financial stability

A common measure of financial stability is the z-score. It explicitly compares buffers (capitalization and returns) with risk (volatility of returns) to measure a bank's solvency risk. The z-score is defined as $z \equiv (k+\mu)/\sigma$, where k is equity capital as percent of assets, μ is return as percent of assets, and σ is standard deviation of return on assets as a proxy for return volatility. The popularity of the z-score stems from the fact that it has a clear (negative) relationship to the probability of a financial institution's insolvency, that is, the probability that the value of its assets becomes lower than the value of its debt [see, for example, Boyd and Runkle 1993, Beck, Demirgüç-Kunt, Levine 2006, Demirgüç-Kunt, Detragiache, and Tressel 2008, Laeven, Levine 2009, Čihák, Hesse 2010].

A higher z-score therefore implies a lower probability of insolvency. The z-score has several limitations as a measure of financial stability. Perhaps the most important limitation is that the z-scores are based purely on accounting data. They are thus only as good as the underlying accounting and auditing framework. [Cihak et al. 2013]. Another well-known indicator in literatures that serves to estimate financial stability is the ratio of bank nonperforming loans to gross loans.

The Global Financial Development Database cross-refers to financial soundness indicator database available on IMF's website (fsi.imf.org) for this indicator. This indicator may be better known than the z-score for the assessment of financial stability and for this purpose was taken into account by the authors.

For financial markets, the most commonly used proxy variable for stability is market volatility, regardless although other proxies are also included in the database, this variable was taken into account for the stock and bond market.

During the data analysis the authors saw two trends. The first trend referred to developed countries, which also for this characteristic were better positioned, in the range 49.1 - 65.7%. The second trend referred to a better position for the European Union Countries, standing in the interval 20.4 - 74.5. Excluding Latvia, Romania and Lithuania, other EU countries have the value of this characteristic above 39.8%. It should be noted that 39.8% was the value of Croatia, which is the newest member of the European Union. This trend should be attributed to the rationalization process that has widely been implemented in the euro area banking sector by reducing the total number of credit institutions, mainly in the countries that were more affected by the recent financial crisis.

CONCLUSIONS

This paper has presented an analysis of the multidimensional nature of the financial system by comparing the economies in transition with developed economies taking into account the variables that indicate a direct and indirect development of their financial system.

The analysis reflects the fact that the financial sector has different sizes and shapes but what differentiates most between countries is its performance. In the model used by Cihak et al., the overall comparisons by levels of development and by region confirm that while developing economy financial systems tend to be much less deep, somewhat less efficient, and provide less access. However, their stability has been comparable to developed economy financial systems.

One basic, yet important, observation highlighted by the Global Financial Development Database is that the four financial system characteristics are far from closely correlated across countries. This underscores the point that each dimension captures a very different, separate facet of financial systems. In other words, the analysis of only one characteristic is insufficient because the financial system is multidimensional.

Moreover, attempts to run a more rigorous “horse race” among the indicators from the four dimensions tend to end in a tie: that is, none of the indicators is clearly superior to the others in explaining long-term growth or poverty reduction [Cihak et al. 2013].

The analysis of the indicators for the study for each characteristic clearly distinguished the supremacy of the level of financial development in the top 5 developed economies compared with those in economies transition. In the final chart, Great Britain, Japan, Sh.BA, Germany and France preside the classification followed by European Union countries, especially the Euro Area, and further followed by the countries of South-Eastern Europe where Kosovo and Albania are two Countries with the lowest level of financial development.

REFERENCES

- Arrow K.J, Debreu G. (1954) Model of general equilibrium. *Econometrica* 22, 265-92.
- Arrow K.J. (1951) An extension of the basic theorems of classical welfare economics, [in:] Neyman J. (ed.): *Proceedings of the Second Berkeley Symposium on Mathematical Statistics and Probability*. University of California Press, pp. 507–32.
- Barth J., Gerard C., Levine R. (2006) *Rethinking bank supervision and regulation: until Angels Govern*. Cambridge University Press, NY.
- Barth, J., Gerard C., Levine R. (2012) *Guardians of finance: making regulators work for us*. MIT Press, Cambridge, MA.
- Beck, T., Demirg-Kunt, A., Levine, R. (2003) Law, endowments and finance. *Journal of Financial Economics* 70, 137–171.
- Beck T., Demirg-Kunt A., Martínez Pería M.S. (2007) Reaching out: access to and use of banking services across Countries. *Journal of Financial Economics* 85(1), 234–66.
- Bencivenga V.R., Smith B. D. (1991) Financial intermediation and endogenous growth. *Review of Economics Studies* 58(2), 195–209.
- Cihak M., Demirguc-Kunt D., Feyen E., Levine R. (2013) *Financial development in 205 economies, 1960 to 2010*. NBER Working Paper no. 18946.
- De Haas R. (2001) *Financial development and economic growth in transition economies: A survey of the theoretical and empirical literature*. Research Series Supervision, Netherlands Central Bank.
- Debreu G. (1951) The coefficient of resource utilization. *Econometrica* 19, 273-92.
- Demirgüç-Kunt A., Huizinga H. (1998) *Determinants of commercial banks interest margins and profitability*. Policy Research Working Paper Series, The World Bank.
- Demirgüç-Kunt A., Levine R. (2008) *Finance, financial sector policies, and long run growth*. M. Spence Growth Commission Background Paper, No 11, World Bank, Washington, DC.
- EBRD, *Integration across borders*. (2012) *Transition Report 2012*. Retrieved from <http://www.ebrd.com/downloads/research/transition/tr12.pdf>
- Fink G., Haiss P. and Vuksic G. (2009) Contribution of financial market segments at different stages of development: transition, cohesion and mature economies compared. *Journal of Financial Stability*, 5 (4) (December 2009), 432 – 455.

- Global Financial Development | Data | The World Bank DataBank. Retrieved June 1, 2015, from: <http://databank.worldbank.org/data/views/variableselection/selectvariables.aspx?source=global-financial-development>
- Gurley J.G., Shaw E.S. (1955) Financial aspects of economic development. *American Economic Review*, 45 (4), 515 – 538.
- Hassan K., Yu J. (2007) Financial development and economic growth: new evidence from panel data. *SSRN Journal SSRN Electronic Journal*.
- Khan M.S., Senhadji A.S. (2000) Financial development and economic growth: an overview. IFM WP/00/2009.
- King R., Levine R. (1993) Finance and growth: Schumpeter might be right. *Quarterly Journal of Economics* 103, August, 717 – 737.
- Koivu T. (2002) Do efficient banking sectors accelerate economic growth in transition countries? BOFIT Discussion Paper, No. 14.
- Levine R. (2005) Finance and growth: theory and evidence. [in:] Philippe Aghion & Steven Durlauf (ed.), *Handbook of Economic Growth*, edition 1, volume 1, chapter 12, 865 – 934.
- Lewis A. (1955) *The theory of economic growth*. London: Allen and Unwin
- Liebscher K., Christl J., Mooslechner P., D. Ritzberger-Grunwald D. (eds.) Elgar (2007). *Financial Development, Integration and Stability: Evidence from Central, Eastern and South-Eastern Europe*. Cheltenham, UK: Edward.
- Robinson J. (1952) *The rate of interest and other essays*. London: Macmillan.
- Rousseau P., Wachtel P. (2002) Inflation thresholds and the finance-growth nexus. *Journal of International Money and Finance*, 21 (6), 777 – 793.
- Rousseau P., Wachtel P. (2011) What is Happening to the impact of financial deepening on economic growth?. *Economic Inquiry*, 49 (1), 276 – 288.
- Saunders A. and Schumacher L. (2000) The determinants of bank interest margins: an international study. *Journal of International Money and Finance*, 19 (6), 813-832.
- Schumpeter J.A. (1912) *Theorie der Wirtschaftlichen Entwicklung* [The Theory of Economic Development, translated by R. Opie, Cambridge, MA: Harvard University Press, 1934], Dunker & Humblot.
- Smith A. (1776) *An inquiry into the nature and causes of the wealth of nations*. Random House.