THE RELATIONSHIP BETWEEN FINANCE AND ECONOMIC GROWTH

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Abstract: *The relationship between economic growth and the development of financial systems indicates a causal relationship, which facilitates the accumulation of resources and the development of a country. The beneficial influence of the development of the financial system, on the growth of the economy is confirmed by a whole series of studies, but the methodological issues and the tendency to report only the relevant results are some of the criticisms brought about empirical evidence. Finally, some recent theoretical developments tend to highlight that the relations between the financial system and economic growth is not precisely linear but rather it can become a limiting factor if we consider population credit. Thus, new theoretical approaches put into doubt the direct relationship between financial system development and economic growth. However, the predominant view in the economic literature points to rather beneficial relationship between financial system development and economic growth.*
Keywords: *finance, economic growth, methodology issues*

1. INTRODUCTION

The relationship between economic growth and the development of the financial system is one type of causality. The literature indicates that an increase of the financial system is beneficial in the long-term economic development of a country. Thus, the development of the national capital market can influence the development of economic growth though channeling long term financing sources in modern economies.

In the new economic environment outlined in the wake of the financial crisis of the 2007-2009, there is a considerable emphasis on the ability of the financial system to ensure the required resources for financing medium and long-term economic development. Therefore, the development of capital markets is a concern of policy makers in terms of supervision and regulation of national and international financial systems (IMF, 2015, pp.75-77). Access to resources long-term financing allows companies and governments to undertake new investments and to reduce the risk of refinancing in the short term.

Neoclassical theoretical approaches concerning economic growth often leaves the stability of the financial system, its capacity to allocate resources effectively, which allows achieving a long-term macroeconomic equilibrium. However, this traditional approach often ignores the mutations that occur within the financial systems transformation occurring in parallel with the development of the banking system and the financial markets. Therefore, "ignoring the role mutations within the financial system can

have systemic consequences" (Ang, 2008, p.563), looks all the more evident in the context of the recent financial crisis (de Haan, Vlahu, 2015).

In this context, we consider it appropriate to highlight the role that you play in developing capital markets and economic growth right next to the following key issues: (1) what factors impose the emergence of capital markets (financial) financial intermediaries; (2) channels of influence to the development of capital markets in economic growth; (3) theoretical approaches concerning the mechanisms of implementation of financial intermediation.

The emergence of capital markets and financial intermediaries is linked to ensure an efficient allocation of resources within an economy. Through capital market development and efficient financial intermediaries the inconveniences associated with the direct transfer of resources between the participants is reduced, because the market provides information relevant for assessment and monitoring by the investors. In this context, investors know that their resources are managed effectively by the recipients, which reduce the information asymmetry between the two participants (Williamson, 1986). Thus, capital markets can facilitate meeting the demand with the supply of resources in the context of a formal institutional mechanism, offering safety and confidence of investors. Finally, easing investor's demands with recipients of resources through capital markets reduce the cost of agency (Williamson, 1986) and increase the efficiency of resource allocation in an economy (Nurunnabi, 2012). Thus, the purpose of this paper is to review the implications of the adoption of the development of financial system on economic growth.

The rest of this paper is organized as follows: Section 2 provides a brief introduction behind the theoretical views behind financial system development, Section 3 characterizes the relationship between finance and growth, and Section 4 concludes.

2. THEORETICAL CONSIDERATIONS

Capital markets can ensure an efficient allocation of resources and facilitate economic growth. Through the reduction of information asymmetry, the costs of trading and tensions between investors and beneficiaries are lowered. The increase the efficiency of resource allocation is a key factor in economic development in the long term (Williamson, 1986; King, Levine, 1993).

Capital markets development can influence economic growth through mechanisms, which aim the development of the entire financial system. Therefore, capital market development can be a prerequisite for economic growth. The theoretical economic literature recognizes **two channels of influence of the development of capital markets on economic growth** (Ang, 2008, pp.538-539): accumulation channel and the total productivity channels.

The accumulation of capital often called the quantity channel, works on the principle of "accumulation of debt" proposed by (Gurley, Shaw, 1955). Through this channel, capital markets and financial system allow accumulating of long-term resources by mobilizing resources from a dormant economy and then redistributing them into the economy to finance investment projects that determines economic growth. Thus, capital

market facilitates economic growth through accumulated resources, which channel into new investments, which determines economic growth.

The total productivity of capital channel, often called the quality channel, highlights the role of the financial markets in reducing the asymmetry of information between participants, which restricts the efficient allocation of resources and increase the monitoring costs and financing (Townsed, 1979; King, Levine 1993). Therefore, a developed capital market can reduce the costs of trading of investors by facilitating financial intermediation.

Through two channels, the development of the financial system is a factor that can influence economic growth, and the analysis of the efficiency of financial intermediation can be observed through four distinct perspectives (Levine, 1997; Levine, 2005):

a) *intermediaries based approach*: what is the role of the financial intermediaries in selecting the best funding opportunities, attracting passive resources from an economy and direct monitoring of investments with risk management. The main advantage of financial intermediaries is their ability to reduce information asymmetry and effectively managing investment risks (Allen, Santemero, 1998). As a rule, the approach based on the financial intermediation is more effective in the case of poorly developed economic states (Levine, 2002).

b) *market-based approach*: highlights the ability of financial markets to manage the risk of investors through analysis of assets (Levine, Zervos, 1998). Funding through capital markets provides competitive advantages for companies acting in innovative industries, where risks are higher, and investors carefully consider any investment opportunity (Rajan, Zingales, 1998);

c) *financial services approach*: offered suggest that financial intermediaries can offer advantages over financial markets. Under this point of view, it matters the high degree of diversity and complexity of a financial products and service, which offers to financial intermediaries and does not concern their quality. It does really matter what is the best financial channel either market based economy or a financial intermediaries economy but rather the balancing of financial intermediaries and the financial market (Levine, 1997);

d) *the regulation and institutions approach*: which argues the role of the institutions and the legislative framework in determining the nature of the link between the financial system and economic growth. A determinant factor for the development of the financial sector that encourages economic growth is represented by the origin of the legal system in a state (La Porta et al., 1998).

The idea that an efficient financial system is capable of facilitating and determining economic growth has the origins from neoclassics such as Bagehot and Schumpeter, but the first empirical tests capable of highlighting the causal link have been carried out by (Goldsmith, 1969) which highlighted the existence of a correlation between economic growth and the development of the financial system. In Goldsmith's (1969) vision the main vector, which contributes to economic growth, is the capacity of financial intermediaries to increase the efficiency of capital allocation by reducing the information asymmetry in the market. While Goldsmith's work highlighted only a

correlation between the degree of development of the financial sector and economic growth, it does not establish that there is a causal relationship between the two macroeconomic variables, but only a simple link to correlation.

3. ECONOMIC GROWTH AND FINANCE

While Goldsmith's (1969) study laid the foundations, in this area, the theoretical developments of King and Levine (1993a) provided an overview of the causal links between the development of the financial sector and capital markets as a growth vector. Today, following countless studies in the field, the relationship between the development of capital markets and economic growth reveal a series of elements relating to the causal link between the two variables. In this respect, we consider it appropriate to present the following key issues: (1) implications for the development of financial systems and economic growth; (2) Criticism of the methodologies used in the studies on economic growth; (3) New approaches in the field-too much financial system?.

3.1 Implications of the development of financial systems on economic growth

In regards to the role of the financial sector in promoting economic growth, the analysis of literature highlights that there is a causal link between the two systems. The main points of interest in this direction are as follows:

A. *The development of the banking sector and economic growth.*

King and Levine's Study (1993) emphasizes that for 77 states between the years 1960-1989 the development of the banking sector and the development of private credit determines economic growth. The two authors use two methods of assessing the development degree of the financial sector: a bank depth index that measures the degree of development of the banking system as a ratio between the volume of bank credit divided by the amount of bank credit and total Assets of the central bank, and a second index of the ratio between private lending volume and GDP. Their results indicate that the size of the financial sector in the year 1960 allowed forecasting, growth, investment and productivity over the next 30 years.

Even though the study of King and Levine (1993) used two methods of estimating the financial sector, there is now a consensus in the economic literature that the main way of assessing the degree of development of the banking sector is the ratio between private credit and total GDP loans (Panizza, 2013). This finding leaves the premise that if banking systems mobilize resources from the population, which then redistribute in the form of loans to governments and state companies is lost from the functionality of the financial system. Thus, credit allocation, risk management and corporate control functions lose their efficiency.

Another criticism of the study of King and Levine (1993) is aimed on the methodology used to predict economic growth as it is incapable of demonstrating a causal link between economic growth and the development of the financial system. Therefore, subsequent studies such as Levine et al., (2000) and Beck et al. (2000)

highlight the causality between the development of the banking sector and economic growth. Thus, Levine et al. (2000) based on an instrumental variable model highlights the role of the legal origin of the legal system (La Porta et al., 1998) in the origin of economic growth for 71 states between The years 1961-1995.

Similarly Beck et al. (2000) uses a GMM type model with specific estimators (Arellano, Bond, 1991; Arellano, Bov, 1995; Blundell, Bond, 1998) and demonstrates that there is a causal link between economic growth and the development of the banking sector, but reveals that the main channel of growth influence is the productivity channel and does not concern the accumulation of capital within the banking system. Thus, the main vector of economic development is the efficiency of financial intermediation and not capital accumulation.

B. Development of capital markets and economic growth

Empirical approaches in this direction have highlighted since the first study that there is a link between economic growth and the development of capital markets. Thus Atje and Jovanovic (1994) based on a sample of 94 states between the years 1960-1985 concluded that there is a beneficial effect between the development of capital markets and economic growth.

Later Levine and Zervos (1998) based on a sample of 47 states between 1976-1993 points out that the development of capital markets determines economic growth. Their results indicate that the liquidity of the capital market is the main vector of influence of capital markets on economic growth, while the stock capitalization, the volatility of the integration degree are neutral. The lack of a direct link between economic growth and stock capitalization is normal because the mere listing of a company does not involve the transfer of further resources, but only the current trading of a financial title facilitates the exchange of resources. However, a number of theoretical developments have at the same stage discussed the results of the study being brought to the table six critics of this Levine study (2005): the use of OLS models (estimation models based on the smallest squares method or ordinary least square), weights to estimate liquidity regardless of geographical range or period of time, the location of capital markets is not exactly relevant being possible to trade financial instruments at a distance, excluding from analysis the bonds market representing almost half of the stock capitalization in some states (Beck et al., 2001) and capital markets is not limited to stock capitalization and liquidity, but also provides other risk protection mechanisms via hedging.

In this context, further studies have highlighted that: the bond market determines economic growth (Guiso et al., 2002) and the development of the financial system through the banking system and capital markets provides additional resources for companies (Demirgüç-Knut, Levine, 2001a).

C. The dilemma between the system financed by banks and the system financed by the capital market

The influence of the financial system on economic growth, empirical studies reveal in reality there is no significant difference between the two financial systems, based on the comparison between the evolution of the UK and the US as superscripts of

the market based markets and Germany and Japan respectively as superscripts of the bank financing system (indebtedness, financial intermediation). The studies of Demirgüç-Knut and Levine, (2001) and Stulz (2001) reach the same conclusions. However, studies in this direction reveal the following **minor differences** between the two systems:

• the developed capital markets are usually found in more developed countries, and as the states develop, we are seeing an increase in the development of capital markets and a migration of resources from financial intermediaries to the capital market (Demirgüç-Knut, Levine, 2001b);

• the financial system is more developed in the market-based system that tends to be more efficient for developed economies while for poorly developed economies a banks-based system tends to be more efficient (Tadesse, 2002).

D. Influence of regulations on the development of capital markets and economic growth

The approach from the perspective of regulations and institutions highlights the role played by the legal framework on the development of capital markets and economic growth. Based on the study La Porta et al. (1998) and subsequent developments (at Porta et al., 2000; La Porta et al., 2002; Djankov et al., 2008), indicate the superiority of the British legal system based on common law againts of the legal system based on civil codes. Common law-based states usually record higher rhythms of economic development than those based on the French civil codes.

E. Relationship between industry type, company characteristics and financial system development

Rajan and Zingales (1998) consider that a developed financial system, based on financial intermediaries and developed capital markets, may exceed the limits of the information asymmetry, reduce the cost of capital and facilitate the development of companies and growth. Therefore, industries that are constantly dependent on external funding resources benefit from the development of the financial system towards non-dependent industries. In this context, with the development of the financial system the main beneficiaries would be companies dependent on external financing resources.

Similarly, subsequent studies have revealed that following the increase in the concentration of the banking sector the main beneficiaries are the companies dependent on external resources (Claessens, Laeven 2005) and the low level of protection offered to investors It determines an inefficient allocation of resources in emerging countries (Claessens, Laeven 2003).

3.2 Skepticism and methodological criticism

A first category of studies, which analyzed the relationship between the development of the financial system and economic growth, highlighted the existence of a causal relationship between these two phenomena, but many of them were criticized either from skepticism or from a methodological aspect.

As the emergences of many studies on the implications of the development of the financial sector highlighted the link between economic growth and the development of the banking sector and capital markets, so did appear many skeptics who emphasis on the negative influence on economic growth that imperfections can have in the lending mechanism that can lead to an increase or perpetuation of social inequality. Therefore, *critics* like (Lucas, 1988; Galor, Ziera, 1993; Galor, MOAV, 2004) believes that in reality, with the development of lending, in an imperfect market is limited by the development of human capital, which, unlike physical capital, must circulate evenly throughout the population.

Apart from skepticism, the main criticisms of the first estimates of the link between economic growth and the development of the capital market have targeted methodological aspects. Some of the most relevant criticisms of the methodology used in this direction are:

- ✓ *the use of a simple linear regression* that is prone to endogeneitate when using time series (Ang, 2008);
- ✓ *use of small samples of countries*: such as studies on the influence of banks-based and market-based economies;
- ✓ *arbitrarily dividing countries* into economies based on intermediation and savings based on capital markets. In principle, the economies of the States were divided into countries with developed and poorly developed financial systems, but they had banking systems developed beyond the world average (Ang, 2008);
- ✓ *use of a small series of data*: usually refers to the results of tests carried out on the basis of time series, requiring large samples not available for macroeconomic variables;
- ✓ *reporting of preferential results*: the publication of the results only when they were of interest to the publisher or author. Recent tests reveal that the first estimates of the relationship between the development of the financial sector and economic growth are subject to preferential environmental reporting, with significant differences being recorded between the results presented and their average evolution (Valickova et al., 2015).
- ✓ *the low degree of comparability*, being used several variables to quantify financial development and measure its propagating vectors (Valickova et al., 2015).

3.3 New approaches in the field and the two much finance dilemma

Based on the first estimates of the relationship between the development of the financial system and economic growth, the subsequent studies mainly aimed at two important directions. A first direction aims at the theoretical developments in the first models, while a second approach requires a radical approach to the causal relationship between economic growth and the development of the financial system. With regard to recent theoretical developments on the relationship between economic growth and the evolution of the financial system, the following key issues are:

a) *capital markets can finance long-term projects more efficiently than banks*: because they can offer, financial products specially designed to finance long-term projects with a high risk requiring a volume of low guarantees. By financing long-term

projects, capital markets can encourage a more accelerated economic growth rate. Instead, banks are more effective when offering short-term financial products (Demirgüç-Knut et al., 2013);

b) *the development of the financial system "steals" skilled people from the labor market reducing the pace of growth*. Some studies such as Philippon and Reshed (2013) or Jocelyn and Kharroubi (2015) indicate that with the development of the financial sector, highly qualified persons with intellectual abilities above average prefer to activate in the financial sector because they are very well paid, rather than using their skills in innovative industries that are dependent on the quality of human capital. With the development of the financial system, innovative companies are deprived of the human capital needed for innovation, limiting the pace of economic growth in a country.

c) *the development of the financial sector has a selective impact on countries*: Valickova et al. (2015) based on a meta analysis of 67 studies in the field reveals that the development of the financial sector has had a strong impact on economic growth in Europe and America Latin while the influence of the financial sector on the countries of North Africa was a small one;

d) *the impact of the development of capital markets on economic growth is higher than that of the development of the banking system,* therefore achieving an optimum in terms of financial structure must bet on the development of capital markets instead of the financial intermediaries (Valickova et al., 2015);

e) *the main vector of economic growth is the increase in the amount of credit given to companies while increasing the financial system by increasing the amount of credit of the population does not influence economic growth*. Some studies such as Beck et al. (2012) or Beck et al. (2014) show only the increase in the volume of credits that companies determines economic growth while the development of the financial system by increasing the amount of credit taken by the population does not determine economic growth.

Alongside new theoretical developments on the link between economic growth and the development of the financial system and the capital market in recent years, the direct causal relationship between economic growth and the development of the financial sector has brought discussion a new dilemma of "***extinction effect***" (Rousseau, Wachtel, 2011) and the "*too much financial system*" dilemma (Arca et al., 2012; Arcaing et al., 2015).

The effect of the disappearance proposed by Rousseau and Wachtel (2011) implies that the link between economic growth and the development of the financial system is not linear but exceeding the degree of development over a certain level may result in a contrary effect, turning into a limiting factor for economic growth. As a rule, studies, which analyze the link between economic growth and the development of the financial system, see less extensive effects of the implications of the development of the financial sector on economic growth, especially in the background of development financial system in the last 20 years. In this context, Arcand et al. (2012) provides the first indications that the development of the financial system by means of crediting the population has a negative effect on economic growth.

Arcand et al. (2012) and Arcand et al. (2015) stresses that after the volume of the population's lending exceeds 100% of GDP further development has negative effects on economic growth. The authors believe that in the case of developed countries the degree of development of the financial system is so high that any additional growth above a certain threshold has a negative effect due to the effect of extinction. Based on estimates, Arcand et al. (2015) considers that exceeding more than 100% of GDP in the amount of credit granted to the population has negative effects on economic growth. The authors, test in analysis the implications of the legal and institutional framework, macroeconomic volatility and financial instability, and emphasize that the effect is evident only to states that have developed their financial sector in recent years. Their results indicate a potential "*too much finance*" for the private lending sector of the population. Similar studies such as Jocelyn and Kharroubi (2012), Pagano (2012), Law Singh (2014) or Aizenman et al. (2015) bear the same viewpoint, whereby overcoming the lending to the population over a certain threshold it has rather negative effects on growth.

Supporters of the term "too much financial system" believe that there are three factors that can explain the results achieved: reducing the role of bank credit (provided by financial intermediaries) with the development of capital markets (Demirgüç-Knut et al., 2013), assumptions that claim that the financial system evolves from balance to economic imbalance (Minsky, 1974) and the transfer of key persons to the financial sector (Tobin, 1984).

4. CONCLUSIONS

The aim of this paper was to establish some insights into the relationship between financial market development and economic growth.

The relationship between economic growth and the development of financial systems and capital markets respectively indicates a causal relationship, facilitating the accumulation and management of resources in the economy for the growth of national economy. The beneficial influence of the development of the financial system, on the growth of the economy is confirmed by a whole series of studies, but the methodological issues and the tendency to report only the relevant results are some of the criticisms brought about empirical evidence. Finally, some recent theoretical developments tend to highlight that the relations between the financial system and economic growth is not precisely linear but rather it can become a limiting factor if we consider population credit. However, the relationship is still a rather beneficial rather than a limiting factor.

From the perspective of capital markets, economic theory highlights that direct reporting between an economy based on capital markets and one based on indebtedness is not one intended to outline a winner. It matters rather the development of capital markets or banking system than the dilemma between who is effective or not. Therefore, the policy makers must take into account mechanisms to encourage and direct the development of capital markets as an instrument, which can constitute a genuine source of economic growth and accumulation of national wealth.

References

1. Aizenman, J., Jinjarak,Y. Park, D., (2015), Financial development and output growth in developing Asia and Latin America: A comparative sectoral analysis. *NBER WP 20917. Cambridge, MA: National Bureau of Economic Research*
2. Allen, F., Santamero, M., (1998), The theory of Financial intermediation, *Journal of Banking & Finance*, 21, 1461-1485.
3. Ang J., (2015), A survey of recent developments in the literature of finance and growth, *Journal of Economic Surveys*, 22, 536-576.
4. Arcand, J., L., Berkes, E., Panizza, U., (2012), Too Much Finance?, *IMF Working Paper 12/161*
5. Arcand, J.L., Berkes, E., Panizza, U., Too much Finance?, (2015), *Journal of Economic Growth*, vol. 20, 105-148
6. Arellano, M., Bond., S., (1991), Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations, Review of Economic Studies 58, 277-297.
7. Arellano, M., Bover, O., (1995), Another look at the instrumental variables estimation of error-components models, *Journal of Econometrics*, 68, 29-51.
8. Atje, R. Jovanovic, B., (1994), Stock markets and development, *European Economic Review*, 37(2–3), 632–640.
9. Beck T., Levine R., Loayza N., (2000), Finance and the sources of growth, *Journal of Financial Economics*, 58, 261-300.
10. Beck, T., Demirgüç-Kunt, A., Levine, R., (2001), The financial structure database. in Demirgüç-Kunt, A., Levine, R. (Editors.), *Financial Structure and Economic Growth: A Cross-Country Comparison of Banks, Markets, and Development*. MIT Press, Cambridge, MA, 17–80.
11. Beck, T., Buyukkarabacak, B., Rioja, F., Valev, N., (2012), Who gets the credit? And does it matter? Household vs. firm lending across countries. B.E. *Journal of Macroeconomics: Contributions*, 12, 1–44.
12. Beck, T., Degryse, H., Kneer, C., (2014), Is more finance better? Disentangling intermediation and size effects of financial systems. *Journal of Financial Stability*, 10, 50–64.
13. Blundell, R., Stephen, B., (1998), Initial conditions and moment restrictions in dynamic panel data models, *Journal of Econometrics*, 87, 115-143
14. Cărăuşu, Nicuşor Dumitru. "Ownership and Control in Large Eastern European Companies." *Scientific Annals of Economics and Business* 63.2 (2016): 181-193.
15. Cărăuşu, Dumitru-Nicuşor, "Financial Contagion in the Recent Financial Crisis: Evidence from the Romanian Capital Market." *Ovidius University Annals, Series Economic Sciences* 17.2 (2017).
16. Cecchetti, S., Kharroubi, E., (2012), Reassessing the impact of finance on growth. *BIS WP 381. Basel: Bank for International Settlements*
17. Cecchetti, S., Kharroubi, E., (2015), Why does financial sector growth crowd out real economic growth?. *BIS WP 490. Basel: Bank for International Settlements*
18. Claessens, S., Djankov, S., Fan, J.P.H., Lang, H.P.F, (2003), Disentangling the incentive and entrenchment effects of large shareholders, *The Journal of Finance*, 57, 2741-2771.
19. Claessens, S., Laeven, L., (2005), Financial dependence, banking sector competition, and economic growth, *Journal of the European Economic Association,* 3, 179–207
20. Demirgüç-Kunt, A., Levine, R, (2001a), Financial structures and economic growth: A cross-country comparison of banks, markets, and development, *MA: MIT Press*, Cambridge, 3-14.
21. Demirgüç-Kunt, A., Levine, R., (2001b), Bank-based and market-based financial systems: Cross-country comparisons, in Demirgüç-Kunt, A., Levine, R. (Editors), Financial Structure and Economic Growth: A Cross-Country Comparison of Banks, Markets, and Development. MIT Press, Cambridge, MA, 81–140.
22. Demirgüç-Kunt, A., Feyen, E., Levine, R., (2013), The evolving importance of banks and securities markets, *World Bank Economic Review*, 27(3), 476–490.

23. de Haan, J., Vlahu, R., (2015) Corporate governance of banks: A survey, *Journal of Economic surveys*, vol. 29 (2), 301-352.
24. Djankov S., Lopez-de-Silanes F., Porta R.L., Shleifer A., (2008), The law and economics of self-dealing, *Journal of Financial Economics*, 88, 430-465
25. Galor, O., Zeira, J., (1993), Income distribution and macroeconomics, *Review of Economic Studies*, 60(1), 35–52.
26. Galor, O., Moav, O. , (2004), From physical to human capital accumulation: Inequality and the process of development, *Review of Economic Studies*, 71(4), 1001–1026.
27. Goldsmith, R. W., (1969), *Financial structure and development*, New Haven: Yale University Press
28. Guiso, L., Sapienza, P., Zingales, L., (2002), Does local financial development matter?, *National Bureau of Economic Research Working Paper No. 8922*
29. Guiso, L., Sapienza, P., Zingales, L., (2004), The role of social capital in financial development, *American Economic Review*, 94, 526–556.
30. Gurley, J.G., Shaw, E.S., (1955) Financial aspects of economic development, *American Economic Review*, 45, 515–538.
31. IMF, (2015) *Global financial development report 2015/2016: Long-Term Finance*, Washington, DC, International Monetary Fund
32. King, G.R., Levine, R., (1993a), Finance and growth: Schumpeter might be right, *Quarterly Journal of Economics*, 108 (3), 717–737.
33. King, R.G., Levine, R., (1993b), Finance, entrepreneurship, and growth: theory and evidence, *Journal of Monetary Economics*, 32, 513–542.
34. La Porta R., Lopez-de-Silanes F., Shleifer A., Vishny R., (1997), Legal Determinants of External Finance, Journal of Finance, 52 (3), 1131–1150.
35. La Porta R., Lopez-de-Silanes L., Schleifer A., Visdhny R., Law and finance, (1998), *Journal of Political Economy*, 106, 1113-1155.
36. La Porta R., Lopez-de-Silanes L., Schleifer A., Visdhny R., (2000), Investor Protection and Corporate Governance, *Journal of Financial Economics*, 58, 3-27
37. La Porta R., Lopez-de-Silanes L., Schleifer A., Visdhny R., (2002), Investor protection and corporate valuation, Journal of Finance, 57, 1147-1170.
38. Law, S. H., Singh, N., (2014), Does too much finance harm economic growth? , *Journal of Banking and Finance*, 41, 36–44.
39. Levine, R. (1997), Financial development and economic growth: views and agenda, Journal of Economic Literature, 35, 688–726.
40. Levine, R., Loayza, N., Beck, T., (2000), Financial intermediation and growth: Causality and causes, *Journal of Monetary Economics*, 46(1), 31–77
41. Levine, R., (2002), Bank-based or market-based financial systems: Which is better?, *Journal of Financial Intermediation*, 11, 398–428
42. Levine, R., (2005) Finance and growth: theory and evidence, in Aghion, P., Durlauf, S.N., editors, Handbook of Economic Growth, Vol. 1a, pp. 865–923, NY: North-Holland, New York
43. Lucas, R.E., (1988), On the mechanics of economic development, *Journal of Monetary Economics* 22, 3–42.
44. Minsky, H. P., (1974), The modeling of financial instability: An introduction. *In Proceedings of the fifth annual pittsburgh conference on modelling and simulation*, Vol. 5, Pittsburgh: Instruments Society of America,
45. Nurunnabi M., (2012), Testing weak-form efficiency of emerging economies: a critical review of literature, *Journal of Business Economics and Management*, 13(1), 167-188.
46. Pagano, M., (2012), Finance: Economic lifeblood or toxin?, *CSEF Working Papers 326. Napoli: University of Naples*
47. Philippon, T., ,Reshef,A., (2013), An international look at the growth of modern finance, *Journal of Economic Perspectives,* 27, 73–96.
48. Panniza, U., (2013), Financial Development and Economic Growth Known Knowns, Known Unknows, and Unknow Unknows, Graduate Insititute of International and Development Working Paper No: 14/2013

49. Rajan, R. G., Zingales, L., (1998), Financial dependence and growth, *American Economic Review*, 88(3), 559–86
50. Rousseau, P., Wachtel, P., (2011), What is happening to the impact of financial deepening on economic growth? *Economic Inquiry*, 49, 276–288.
51. Stulz, R.M., (2001), Does financial structure matter for economic growth? A corporate finance perspectiv, in Demirgüç-Kunt, A., Levine, R. (Editors), Financial Structure and Economic Growth: A Cross-Country Comparison of Banks, Markets, and Development. MIT Press, Cambridge, MA, 143–188.
52. Tadesse, S., (2002), Financial architecture and economic performance: International evidence, *Journal of Financial Intermediation,* 11, 429–454
53. Tobin, J., (1984), On the efficiency of the financial system, *Lloyds Bank Review*, 153, 1–15.
54. Townsend, R.M., (1979), Optimal contracts and competitive markets with costly state verification, *Journal of Economic Theory*, 21, 265–293.
55. Valickova, P., Havranek, T., Horvath, R., (2015), Financial development and economic growth: a meta-analysis, *Journal of economic surveys*, vol. 29 (3), 506-526
56. Williamson, S.D., (1986), Costly monitoring, financial intermediation, and equilibrium credit rationing, *Journal of Monetary Economics,* 18, 159–179.

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