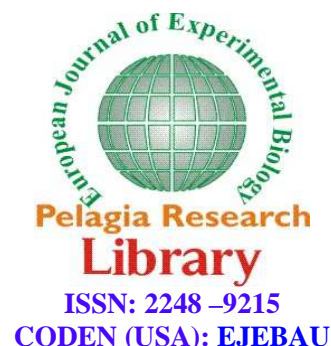




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# Evaluation of macroeconomic variables and their role in financial development and economical growth

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## ABSTRACT

*The main purpose of this paper has been to discuss the effects of some of the key macroeconomic variables on financial development and economical growth. The financial system can play an important role in economic development. Theory suggests that effective financial institutions and markets that help overcome market frictions introduced by information asymmetries and transaction costs can foster economic growth through several channels. Specifically, they help (i) ease the exchange of goods and services by providing payment services, (ii) mobilise and pool savings from a large number of investors, (iii) acquire and process information about enterprises and possible investment projects, thus allocating society's savings to its most productive use, (iv) monitor investments and exert corporate governance, and (v) diversify and reduce liquidity and inter-temporal risk. However, economists still do not agree on the role played by finance in economic development. The relationship between financial development and economic growth has remained as an important issue of economic debate. An important number of theorists, starting with Schumpeter, have emphasized the role of financial development in better identifying investment opportunities, reducing investment in liquid but unproductive assets, mobilizing savings, boosting technological innovation, and improving risk taking. However, not all are convinced about the importance of the financial system in the growth process.*

**Key words:** Financial development, Economic growth, Macroeconomic variables

## INTRODUCTION

Opinions on the relationship between economic growth and financial development run the gamut, from there being little or no role of financial development in economic growth (e.g. the Solow model<sup>1</sup>) to financial development being the engine of economic development.<sup>2</sup> McKinnon [33] and Shaw [43] are important to the initial debate. They claim that financial liberalization catalyzes financial development and economic growth. Recent studies show that there is indeed a strong correlation between financial development and economic growth, and that financial development leads economic growth. For instance, King and Levine [17] empirically show in their cross-section analysis that the level of financial development is a leading indicator of future economic development. Levine, Loayza, and Beck [26] likewise assert that financial development induces economic development by showing a robust correlation between the two variables in their panel analysis. In a more comprehensive study, Beck, Levine, and Loayza [24] look at the relationship between the development of financial intermediaries on the one hand and (i) economic growth, (ii) TFP growth, (iii) material capital stock, and (iv) private saving rates on the other. They also

find that the development of financial intermediaries has a positive role in (ii), which, in turn, raises (i), and yet has little relationship with (iii) and (iv) in the long run. More recently Laeven et al. [21] use data of developing and developed countries that have experienced financial crises in the last 30 years and find that financial crises have reduced industrial growth. Long term sustainable economic growth depends on the ability to raise the rates of accumulation of physical and human capital, to use the resulting productive assets more efficiently, and to ensure the access of the whole population to these assets. Financial intermediation supports this investment process by mobilising household and foreign savings for investment by firms; ensuring that these funds are allocated to the most productive use; and spreading risk and providing liquidity so that firms can operate the new capacity efficiently. Financial development thus involves the establishment and expansion of institutions, instruments and markets that support this investment and growth process. Historically the role of banks and non-bank financial intermediaries ranging from pension funds to stock markets, has been to translate household savings into enterprise investment, monitor investments and allocate funds, and to price and spread risk. Yet financial intermediation has strong externalities in this context, which are generally positive (such as information and liquidity provision) but can also be negative in the systemic financial crises which are endemic to market systems. Lucas [30], however, is of opinion that the relationship between financial development and economic growth is not unambiguous and that the role of the former in the latter is overestimated. Favara [9] concurs, determining after analysis of the expanded samples of Levine, Loayza, and Beck [27] that financial development is not the most important factor in economic growth and that the former does not necessarily induce the latter.

### **Financial development and economic growth**

The relationship between financial development and economic growth has been extensively analysed in the literature. Most empirical studies conclude that the former, together with a more efficient banking system, accelerates the latter [22, 23, 44]. Levine [23] suggests that financial institutions and markets can foster economic growth through several channels, i.e. by (i) easing the exchange of goods and services through the provision of payment services, (ii) mobilising and pooling savings from a large number of investors, (iii) acquiring and processing information about enterprises and possible investment projects, thus allocating savings to their most productive use, (iv) monitoring investment and carrying out corporate governance, and (v) diversifying, increasing liquidity and reducing intertemporal risk. Each of these functions can influence saving and investment decisions and hence economic growth. Since many market frictions exist and laws, regulations, and policies differ markedly across economies and over time, improvements along any single dimension may have different implications for resource allocation and welfare depending on other frictions in the economy. The relationship between financial development and economic growth is a controversial issue. Some authors consider finance an important element of growth [41, 11, 33, 43, 17], whilst for others it is only a minor growth factor [36, 30]. Schumpeter [41] sees the banking sector as an engine of economic growth through its funding of productive investment. On the contrary, Lucas [31] argues that the role of finance has been overstressed. Greenwood and Jovanovic [13] model the dynamic interactions between finance and growth and emphasise the two-way causality between them. Financial intermediaries produce better information and improve resource allocation. An expanded system of financial intermediation is able to allocate more capital to efficient investments and thus to foster economic growth. Bencivenga and Smith [4] highlight the fact that, by eliminating liquidity risk, banks can raise economic growth. Financial intermediaries boost productivity, capital accumulation and growth by improving corporate governance. Existing studies typically focus on variables capturing the size, activity or efficiency of specific financial institutions or markets. Early contributions used aggregate data on banks for a large number of developed and developing countries including the ratio to GDP of monetary variables or financial depth indicators (credit to the private sector). Later studies on the link between financial development and economic growth have added indicators of the size and liquidity of stock markets, but these are available for fewer countries and shorter time periods. The same applies to indicators of the efficiency and competitiveness of financial institutions. Single country studies allow researchers to use more extensive micro-based data and/or analyse specific policy measures or reforms. Goldsmith's [11] was the first to show empirically the existence of a positive relationship between financial development and GDP per capita. King and Levine [17] used mostly monetary indicators and measures of the size and relative importance of banking institutions and also found a positive and significant relationship between several financial development indicators and GDP per capita growth. Levine and Zervos [25] included measures of stock market development and found a positive partial correlation between both stock market and banking development and GDP per capita growth. More precisely, they reported a positive and significant link between liquidity of stock markets and economic growth, but no robust relationship between the size of stock markets and economic growth. Levine et al. [26] found that the development of financial intermediation affects growth positively, and that cross-countries differences in legal and accounting system largely account for different degrees of financial development. More recently, some authors have suggested that there is a

positive relationship between financial deepening and per capita income in the transition economies [8, 2]. A positive effect of financial development on economic growth through its sources (capital accumulation and productivity), and even on income inequality and poverty, has also been reported [6, 23].

### **The impact of financial development on economic growth**

According to McKinnon [33] liberalisation of financial markets allows financial deepening which reflects an increasing use of financial intermediation by savers and investors and the monetisation of the economy, and allows efficient flow of resources among people and institutions over time. This encourages savings and reduces constraint on capital accumulation and improves allocative efficiency of investment by transferring capital from less productive to more productive sectors. The efficiency as well as the level of investment is thus expected to rise with the financial development that liberalisation promotes. These benefits include a decrease in firms' in self-investment at low and even negative rates of return, allocation of credit by capital markets rather than by public authorities and commercial banks, a shift away from capital-intensive investments due to the higher cost of capital reflecting its scarcity, the lengthening of financial maturities, and the elimination of fragmented and inefficient curb markets [3]. Development of the financial system facilitates portfolio diversification for savers reducing risk, and offers more choices to investors increasing returns. Another important function of financial system is to collect and process information on (productivity-enhancing) investment projects in a cost effective manner, which reduces cost of investment for individual investors [18]. The productive capacity of the economy is determined by the quality as well as by the quantity of investment and capacity utilisation is as important as the installed capacity. Easing credit constraint, particularly working capital, is expected to improve the efficiency of resource allocation and thereby reduce the gap between actual and potential output. This new model is not clear about what institutional forms should in fact replace the previous system, which was clearly inefficient but did directly support strategic investment and growth objectives. In fact, financial systems serve five broad functions. First, they produce information ex ante about possible investments. Second, they mobilise and pool savings and allocate capital. Third, they monitor investments and exert corporate governance after providing finance. Fourth, they facilitate the trading, diversification and management of risk. Fifth, they ease the exchange of goods and services. While all financial systems provide these financial functions, and each of these functions can be expected to have an impact on economic growth, there are large differences in how well they are provided. There are three basic characteristics of financial systems that are now regarded as capturing the impact of these five functions on economic growth: (i) the level of financial intermediation; (ii) the efficiency of financial intermediation; and (iii) the composition of financial intermediation.

### **Finance, institutions and economic growth**

It is now widely accepted that factor accumulation (including human capital) and technological change alone cannot adequately explain differences in growth performance across countries. Institutions and finance are separately emerging as the key fundamental determinants of economic growth in recent literature. Institutions are the rules of the game in a society by which the members of a society interact and shape the economic behaviour of agents. They may be treated as "social technologies" in the operation of productive economic activities, which involve patterned human interaction rather than physical engineering [34]. When the rules change frequently or are not respected, when corruption is widespread or when property rights are not well defined or enforced, markets will not function well, uncertainty would be high, and the allocation of resources would be adversely affected. A number of recent papers provide empirical evidence that confirms the importance of institutional quality for economic performance. Rodrik et al. [38] find that quality of institutions overrides geography and integration (international trade) in explaining cross-country income levels. Hall and Jones [16] show that differences in physical capital and educational attainment can only partially explain the variation in output per worker. They find that the differences in capital accumulation, productivity and output per worker across countries are driven by differences in institutions and government policies. Knack and Keefer [19] find a positive and significant relationship between institutional indicators such as quality of bureaucracy, property rights, and political stability and economic growth utilizing cross-country data. Mauro [32] demonstrates that the countries that have a higher corruption index tend to have persistently lower growth. Rodrik [37] finds that an index of institutional quality does exceptionally well in ranking East Asian countries according to their growth performance. Pistor et al. [35] point out that law and legal systems were important in promoting Asian economic growth, even though they have been largely ignored by the literature. Financial intermediaries perform an important function in the development process, particularly through their role in allocating resources to their most productive uses. The increased availability of financial instruments reduces transaction and information costs while larger and more efficient financial markets help economic agents hedge, trade, pool risk, raising investment and economic growth [12]. Levine [29] provides an excellent overview of

a large body of empirical literature that suggests that financial development can robustly explain differences in economic growth across countries. However, as Levine admits establishing that the relationship is causal in cross-country studies is not straightforward. Zingales [46] questions the extent to which cross-country relationships of this type can be utilized for policy purposes, especially since there is a bunch of variables, all positively correlated with growth, which are also highly correlated among themselves. These difficulties have prompted a number of authors to examine the relationship using time-series data for individual countries in the hope of a better understanding of the causality between finance and growth. This is to some extent because the nature of Granger causality tests requires time-series data but also because other conditioning variables which may vary considerably across countries, such as human capital will only vary slowly, if at all, within countries. Thus, time-series methods could, in principle, be better able to unveil the causal pattern between finance and growth. Within individual countries the evidence on the relationship between financial development and growth over time is broadly consistent with that obtained from cross-section studies in the sense that it is usually a positive and significant one. However, an important difference with cross-country studies is that causality is typically found to vary across countries. For example, Demetriades and Hussein [7], in their examination of the time-series relationship between finance and growth in 16 less developed countries and find, more often than not, causality running from growth to finance and not vice-versa. It is, therefore, not sensible to draw out any policy implications from the positive association obtained between finance and growth obtained from cross-country studies that would be applicable to every country in the world. More finance may mean more growth in some cases but not in others. Knowing where it does and where it doesn't is critical for policy makers. Understanding why there is such variation across countries is an important next step for both policy makers and academics, since this knowledge may hold the key to successful financial development.

#### **Relationship between financial development and economical growth**

The role of financial sector in economic growth has intrigued macroeconomists and financial economists for decades. Numerous econometric studies such as the ones by Fernandez and Galetovic [10] and Arestis and Demetriades [1] have led to conflicting results on causality, with some indicating reverse causality and others resulting in insignificant parameters. Arestis and Demetriades [1], in particular, using twelve countries as case study, show that the direction of causality depends on the variable used and that each country exhibit different results. These results do not exhibit a pattern for developed or developing countries which confirms the hypothesis that institutional considerations and policies of countries do play a role in the relationship between finance and growth. In general, empirical studies suggest three types of causal direction between finance and growth. First, the Harrod-Domar growth model would lead to a hypothesis of one-way causality from financial development to economic growth. Second, there is unidirectional causality from growth to finance. Such finding confirms Shan et al. [42] conclusion that economic growth causes China's financial development. Nonetheless, a third alternative, the co-evolution (bidirectional causality) between economic growth and financial development hypothesized in both early and recent literature [14, 15, 4] cannot be ruled out. In one of the early studies on this subject, Goldsmith [11] analyzed data from thirty-five countries for the period 1860-1963 and found that financial and economic development are positively correlated over periods as long as several decades. Financial development was measured in his study by the ratio of financial intermediary assets divided by gross national product. The result from Goldsmith's study still leaves the puzzle unresolved because each variable has a feedback effect on the other. In an attempt to explain the puzzle, Goldsmith [11] stresses that financial development largely occurs during the early stages of economic development when countries have low levels of income. This rationale seems to be debunked by the finding of Besci and Wang [5] who point out that even though financial development occurs and may precede economic growth, it is unclear that it provides causality in an economic sense. The finding of Goldsmith [11] was later confirmed by De Gregor and Guidotti [15] who note that over time, the correlations between financial development and economic growth are strong in the early stages of development and are diminished or even eliminated for OECD countries. They further show that the effect of financial development on growth becomes weaker as countries become more developed, perhaps because of problems with measuring financial development or because financial intermediaries actually have larger effects in less developed countries than in more developed ones. This finding was further reinforced in the work of Wachtel and Rousseau [45]. It was found in a study of five industrialized economies at their early stages of development that the banking and securities markets mattered for industrialization and the expansion of commerce in four economies that are generally considered to have experienced "financial revolutions" over the past century. Similarly, Rousseau and Sylla [40] examine the historical role of finance in the U.S from 1790-1850 and find a strong support for finance led growth. In addition, Rousseau [39] investigates the Meiji era of Japan (1868-1884) and shows that the financial sector was instrumental in boosting Japan's explosive growth prior to the First World War. Furthermore, some studies have examined the direction of

causality through the use of instrumental variables that are correlated with financial development but not with growth beyond their link to financial development. La Porta et al. [20] show that economies could be classified into four types, depending on whether their commercial/company laws were derived from English, French, German, or Scandinavian law. Using this measure of legal origin as instrumental variables, Levine [28], Levine et al. [27] find that it is correlated with the degree of financial development. Their results reveal a strong positive connection between instrumental variables and growth.

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