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Interrelation between Financial Development and Economic Growth in Morocco: Modeling test

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ABSTRACT: This paper proposes an empirical evaluation, starting from Moroccan data, of the impact of financial development on the economic growth. Using the model with error correction, we tried to test the direction of causality (in the short run and long-term) between the financial sphere and the real sphere.

KEYWORDS: financial development, financial liberalization, economic growth, Cointegration.

INTRODUCTION

Réflexion on the relationship between financial development and economic growth, appears relatively recently in economic thought. It is not until 1980 -90 as the importance of the institutional environment as a development factor became clear. Many econometric and theoretical studies remain indicative of the close relationship between the level of financial sector development and growth. Indeed, the research explores the idea that financial development improves the efficiency of capital allocation and therefore to integrate it into an endogenous growth model where any increase in capital productivity will have a positive effect on the long-term growth rate of the economy.

Especially, some work came to mount it as a two-way causality, in that the real sector exerts a kind of positive externality on the financial sector through the volume of savings.

A short historical journey teaches us that until the 90s, the size of this theme was minimal in all the dominant economic thinking. Growth theories made no role to the financier. We had to wait for Schumpeter to make a substantial credit analysis of the role. In his book "The theory of economic evolution" He realized that the credit serves industrial development, it is a prerequisite for the creation and development of innovation and thus economic growth, and that entrepreneur and banker are two additional players in the whole innovation process.

It was not until the second half of the 20th century that the financial literature will experience a revival, particularly with the work of GURLEY and SHOW (1955) that identify a significant relationship between financial intermediaries and growth. MCKINNON (1973) and SHOW (1973) emphasize the negative impact of financial repression (selectivity credit, ceilings on interest rates, financial protectionism ...) reducing the formation of capital and distorting the technical choices to the detriment of intensive activities out of hand and lead to intensive capital investment. The most that had brought the theories of the 80s and 90s as they were fed by modeling the endogenous growth were to rigorously clarify the relationship between financial development and growth and to deepen understanding

Our analysis assigns the objective of showing the financing of the economy through two main areas: the first is purely theoretical and empirical, it stands at first, a historical overview of the financial literature, then he expatiates the crucial role played by financial structures in economic growth

The second focus is on an econometric study of the financial system's contribution to economic growth in Morocco and we will present our own results via cointegration.

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1 ISSUE

The financial system may not be effective and therefore can harm economic growth. Indeed a number of recent crises show that the financial sector may be the cause of a macroeconomic malfunction and can trigger panic and stylized facts. These crises have prompted us to reflect on the strength of the positive relationship between financial development and economic growth, more specifically, it is to study how he favorise- financial development to economic growth?

Our analysis assigns the objective of showing the financing of the economy through two main areas: the first is purely theoretical and empirical, it stands at first, a historical overview of the financial literature, then he expatiates the crucial role played by financial structures in economic growth

The second focus is on an econometric study of the financial system's contribution to economic growth in Morocco and we will present our own results via cointegration.

2 THEORETICAL FOUNDATIONS AND EMPIRICAL STUDIES OF THE RELATIONSHIP BETWEEN FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH:

2.1 THEORETICAL APPROACHES OF THE LINK BETWEEN THE ACTIVITIES OF FINANCIAL INTERMEDIARIES AND ECONOMIC GROWTH

One of the primary functions of financial intermediaries is the intertemporal allocation and coordination of household savings in the investment decisions of firms.

He calls the financial development process through which instruments, financial markets and intermediaries improve information processing, implementation of contracts and completion of the transactions, allowing the financial system to better exercise the functions defined above.

- The financial system facilitates the exchange of goods and services, reducing transaction costs and access to information associated with this trade. Its role is comparable to that of the currency, it deepens, including facilitating payments and providing inter temporal dimension through access to credit.
- The role of the financial system in the mobilization and collection of savings is understandable: It makes it possible to build up a stock of financial resources from the non-coordinated contribution of a large number of investors, generating high transaction costs. It also provides an essential function of guaranteeing the confidence that each investor is willing to entrust their savings, role reporting to the processing of information mentioned above.

This role is secured through both the markets by financial intermediaries:

- The markets offer in an institutional context framed by regulatory authorities various vehicles, whether investments in stocks, bonds, various types of products or mutual funds;
- Financial intermediaries attract savings by the reputation they gain in their ability to grow these savings, also in a controlled environment, and accompanied by various guarantees of deposits, likely to reassure savers.
- The third function, which involves the acquisition of sufficient quality information on the profitability of investment projects or the ability of agents into debt. In the absence of this information, capital accumulation may be ineffective and undermines the long-term growth.

The problem of asymmetric information is crucial here, because only know a priori potential debtor's ability to repay a loan. The acquisition of this information by creditors is expensive, and this cost can be shared. It is essential that the financial system is able to channel savings to the most productive uses. Financial intermediaries, for example, have a major role to play in enabling a better analysis of investment projects and businesses, helping to identify the best projects, financing of the most profitable businesses, and therefore the efficiency of resource allocation, productivity and growth.

- Financial systems also facilitate management and risk diversification by allowing investors to hold diversified asset portfolios. This allows averse agents may be willing to invest in riskier projects whose profitability is higher. We can therefore expect a beneficial effect on long-term growth.

Beyond this diversification effect, financial systems also allow risk management based on liquidity, that is to say, the possibility of converting financial instruments predictable purchasing power at short notice. When the instruments are liquid, investors may be willing to hold such instruments (stocks, bonds, bank deposits) even though they are used to fund long-

term risky investments. Facilitating transactions in financial instruments, markets reduce liquidity risk likely to make investors more cautious. This is one of the keys to innovation funding.

In his theory of economic history, Sir John Hicks indicates that products made in the first decades of the industrial revolution were not new and had been invented long ago. The source of the outbreak of the Industrial Revolution in England in the 18th century, and the reason for its lead over the European continent, is rather to be found in the liquidity of the capital markets, which has enabled the financing of innovation is -to say the transformation of the invention in industrial activity. Market liquidity can help ensure that decisions take more into account the long term. At the same time, however, it can also facilitate the instability due to the reversibility of decisions, the costs can be substantial, and feed the manias, panics and crashes.

- Finally, the financial system also has a control function of corporate governance. The role of the latter in the growth is based on the following argument: if investors, shareholders or creditors may encourage business leaders to maximize the value of the company, this will improve the efficiency of resource allocation and the disposition of investors to fund business and innovation. This feature, however, is hindered by the treatment of a very asymmetric information: the corporate executive has direct access to information and can control the spread (the risk also exists that this information is manipulated), while this Access involves an investment (both financial and in terms of expertise) from the capital providers. This information asymmetry phenomenon is a serious obstacle to the conclusion of financing transactions because it creates two types of difficulties:

- A problem of "adverse selection" which makes it difficult securing an equilibrium price between supply and demand for financing. For if one considers that the capital provider can not know the quality or the risk of the projects for which it is requested, then it will ask a remuneration to be based on the quality or medium risk projects such that appreciates them. That is to say the least risky projects will have to bear too high pricing while riskier projects will, by contrast, under priced. Under these conditions, good risks (squeezed by evil, hence the notion of "adverse selection" give up their demand for financing. This will reduce the average quality of projects, justify an increase in the required compensation, eliminate some of the new funding applications and so on ...

In total, the capital market (loans or equity) will shrink and eventually disappear. At the very least, it shows that in these circumstances, the supply of capital is rationed, that is to say the adjustment will be through the fault financing volume to find a price or in this case a compensation equilibrium.

- A problem "moral hazard" that mortgage compliance with the financial terms of the contract. Because it is difficult to write precisely the rights and obligations of the parties to an exchange in all possible cases. Therefore, money applicant may use its privileged position information to play against the interests of the creditor. It may, in particular, to choose a riskier project than expected, or implement differing terms, hide the reality of the results ... ... So here again, the asymmetric position of the contracting parties can make impossible or at least difficult to achieve the operation.

One of the essential functions of any financial system is thus to provide solutions to these problems. This requires a legal framework that best preserves capital providers by:

- Rules that ensure quality and proper dissemination of relevant information to investors;

- An organization of capital markets that ensures fair trade (excluding price manipulation or insider trading).

But it also implies the existence of financial institutions to produce information and control projects directly, decisions and statements of accounts receivable. It is understandable, therefore, that a financial organization is not only a place for collection and transfer of savings. It is also and above all a control system, that is to say, a practical system of rules and institutions to the conclusion of financial contracts.

In an economy without financial system, each agent could invest his savings in his own projects. And some of them may not be funded even existing savings that would be unused. In addition, no assurance whether the most profitable projects that are emerging.

The financial system is used to address these problems; banks to select and fund the right projects.

Pagano [1993] proposes a methodology resumed and completed by Bartholomew & Varoudakis [1994]. For these authors, it is possible to model the development of financial intermediaries by a parameter j, which plays on the allocation of savings to investment such that we have I = jS. Another example is Bencivanga & Smith [1992] & Roubini and Sala-i-Martin [1992] which, in a more problem-oriented evaluation of a policy of financial repression, proposing to link the development of finance, currency and growth.

In total, the theoretical work has helped to identify and analyze the channels through which financial development is likely to contribute to growth and the functions it must perform for it. The overall conclusion is somewhat cryptic: if the functions are met, financial development contributes to growth. But this conclusion leaves two open questions: are precisely busy? And how can they best be met, that is to say, what forms of financial development appear better suited? These issues are particularly relevant as experience suggests that poorly controlled financial development can also be a factor crises and instability expensive for growth.

2.2 EMPIRICAL WORK RELATING TO THE RELATIONSHIP BETWEEN THE FINANCIAL SYSTEM AND ECONOMIC GROWTH.

Empirical studies show that countries with the highest investment and savings rates parallel the more developed financial sectors. Conversely, in many low-growth countries shows that intermediation is low.

2.2.1 EVIDENCE OF A POSITIVE RELATIONSHIP BETWEEN FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH

The link between financial development and economic development has been recognized in literature over the last thirty years: Goldsmith (1955, 1969), Gurley and Shaw (1967), McKinnon (1973, 1991), Shaw (1973), Fry (19881, 1989) and more recently Thornton (1991, 1994) and King and Levine (1992, 1993). We can associate the literature importance to this list on endogenous growth: Bencivenga and Smith (1991), Greenwood and Jovanovic (1990), Pagano (1993), etc.

The first significant study of comparison between countries (Goldsmith [1969]) involved 35 countries and established a positive correlation between financial development, as measured by the size of the financial intermediaries in terms of GDP [interpreted as an indicator of quality of financial services provided) and economic growth.

This study suffers from several weaknesses:

- Do not take into account all factors that influence economic growth,
- Do not examine whether financial development is associated with increased productivity and capital accumulation;
- The size of withholding financial intermediaries may not correctly measure the functioning of the financial system;
- The significant correlation between the size of the financial system and economic growth does not identify the causal direction.

2.2.1.1 KING AND LEVINE

King and Levine [1993] while wanting to address these weaknesses, deepened this study, both by expanding the number of countries to 80, over a period from 1960 to 1989 by building new measures of financial development [size financial intermediaries, the role of bank credit, the relative importance of private sector credit, taken as an indicator of how the financial system collects information about companies), studying their links with capital accumulation and the growth of productivity, controlling for other factors influencing long-term growth. The authors found a significant positive correlation between each of the selected indicators of financial development, long-term growth, capital accumulation and productivity growth. Although they do not address causality, they show that the size of financial intermediaries in 1960 predict growth, capital accumulation and productivity gains for the 30 years that followed.

The introduction of financial markets in such studies has led to questions as to the relevant measures of development of these markets to consider.

Levine and Zervos [1998] found that the initial level of liquidity of the stock market and the initial level of development banks are positively correlated with the rate of growth, capital accumulation and productivity growth the next 18 years, which reinforces the thesis that market liquidity facilitates long-term growth. However, the market size is not positively correlated to growth is the ability to exchange financial instruments, rather than the size that improves resource allocation and growth.

2.2.1.2 LEVINE, LOAYZA AND BECK

A subsequent study in panel data and cross-sectional Beck, Levine and Loayza [1999] seeks to assess the empirical relationships dynamically between the level of financial development and economic growth, factor productivity, capital accumulation and the savings rate. This article is distinguished by the use of dynamic panel data, which estimate growth relationships using an offset endogenous variable, in this case the level of GDP / capita in t-1. The desired estimator then

uses the instrumental variables estimator using the GMM (GMM). In addition to some methodological advance, the full study the number of explanatory variables by adding variables to the regulatory systems in the form of specific financial dummies for each country (Anglo-Saxon system, Scandinavian, universal bank ...)

Thus, they regress equation: Yt = a + B + FINANCE + YREAL where Y refers to GDP growth, growth of capital stock, growth in productivity or savings rates. The FINANCE variable refers to previous indicators. In the case of panel data regressions, the authors use an offset variable in their explanatory group.

2.2.1.3 BECK AND LEVINE

The law and finance theory emphasizes the role of legal institutions to explain international differences in financial development.

Firstly, law and finance theory holds that in countries where legal systems apply private property rights, support the contractual provisions, and protect the rights of investors, investors are more willing to finance companies and to enable financial markets to thrive.

Second, the different legal traditions that emerged in Europe in previous centuries were broadcast internationally through conquest, colonization, imitation which explains the differences in investor protection, the contracting authority of environment and financial development today.

Finally, some researchers say quoi'à share the central role of legal institutions, other factors, such as the competitiveness of the product market, social capital and informal rules are also important for financial development

Beck and Levine describe the law and finance theory as well as skeptics and views, and examine empirical data view on both sides of the law and finance. 2 - The studies found a mixed impact of financial development on economic growth

2.2.1.4 RAM

Some authors have questioned the strength of the empirical relationship between financial development and growth. For example, Ram (1999) shows that when using annual data on ninety-five countries over the period 1960-1989, a positive and significant relationship between liquidity and growth rate appears only for nine of between them. (For others it is insignificant or negative).

2.2.1.5 ANDERSEN AND TARP

The impact mitigated financial development on growth can be explained by several factors, first, the increase in deposits accompanying the monetization of the economy involves a risk of banking crisis. The bankruptcy of a bank unable to ensure the liquidity of deposits, can affect the entire banking system, partly as banking regulation and deposit insurance system are not well implemented and when he State -even accumulating arrears.

Thus, the bank runs can affect healthy banks, as investors have no information on the actual solvency of each bank and can not discriminate between them. It follows that the too rapid growth of bank money can cause bank failures in series since in developing countries, bank accounting according to international standards and banking supervision is hampered by the lack of qualified professional.

STIGLITZ AND WEISS

To explain the financial crises in Latin America (Chile, Argentina, Uruguay), and the Philippines and Turkey. According to analysis by Stiglitz and Weiss, the information asymmetry between banks and their customers is associated with low interest rates and credit rationing, to avoid adverse selection of borrowers and inciting them to accept higher risks attached to their projects. In fact, borrowers receive all profits on success while the risk is limited to the loss of warranty. Thus, the expected return by the borrower may increase the risk associated with the project and simultaneously the interest rate it is willing to pay increases, then, while the return expected by the bank decreases. maintaining interest rates low and credit rationing can also result simply monitoring costs increase with the interest rate and the expected risk of the project.

Moreover, the probability of financial crises appears to have increased in the financial systems based on the financial markets. By 1985, Joseph Stiglitz highlighted the imperfections of financial markets and argued that small investors are able to exercise control over businesses, and are encouraged due to the liquidity of financial markets to sell their shares when

business go wrong, rather than trying to change the management of these companies. These market failures result in inefficient allocation of savings to investment. Moreover these failures increase the likelihood of financial crises

2.2.2 THE CONTROVERSY OVER THE DIRECTION OF CAUSALITY OF THE RELATIONSHIP BETWEEN FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH

Another field of literature has questioned the nature of causality between financial development and economic growth. Following the work of Patrick [1966] Jung [1986] or St Paul [1996] it is possible to think that the best explanation of the development of financial systems, in addition to regulatory constraints or public intervention would be the development of the sphere real. Only the increase in savings collected by the financial system would be able to trigger the virtuous circle of growth. Patrick example are two key phases in explaining the interrelationships between economic growth and financial deepening. It is necessary to distinguish the early stages of development which causality would the financial to the real of a developed economy, which would be the real sector that is driving the development of the financial sector. The main contribution of Berthélémy & Varoudakis is to provide theoretical and empirical manner that the development of the real economy and the financial sector are closely linked and that causality plays in both directions.

To validate this hypothesis, a first approach is to estimate the causal links between financial development and economic growth. The working Laroche & alii is exemplary in this respect, but unfortunately limited to OECD countries. The results show that causality goes the real financial and financial to the real, according to the different indicators. It is not possible to determine a uniquely defined causality. The second strength of this study is to determine various country clubs that are classified according to their financial system (Anglo-Saxon countries where market finance dominates Rhine or Scandinavian model).

A second line of research to show that the relationship between financial development and growth is ambivalent is to determine different convergence clubs. The working Berthélémy & Varoudakis [1995.1998] in cross-sectional or panel data is the main methodological basis for our work. The results obtained demonstrate the non-linearity between financial development index (liquidity ratio) and growth. Beyond a certain threshold, countries spend a convergence club to another, affecting very positively on the growth rate. But estimating panel data seems to suffer from misspecification should seek to solve.

It is clear that empirical studies do not completely solve the issue of causation. Financial development can predict growth because financial systems simply develop following an anticipation of future economic growth. In addition, political, legal traditions, or the institutional framework can play an important role in the financial and economic development. Changes in telecommunications; computers, and sectoral policies, influence the quality and structure of the financial system institutions. It is extremely difficult to isolate the importance of these and other factors in the economic growth process. Therefore, any statement about causality is largely inconclusive and, moreover, specifically riveted to periods and individual countries.

So the empirical studies show a positive relationship between financial development and growth. This link is best documented in the case studies and studies of industries or sectors. The finding of a positive effect on average over several countries and periods brings however little information on the nature of financial development to encourage, nor why financial systems have evolved as they did. In the next section, we deepen understanding of the respective roles of financial intermediaries and markets.

2.3 ANALYSIS OF THE MOROCCAN REFORM THE FINANCIAL SYSTEM AND THEIR IMPLICATIONS ON ECONOMIC GROWTH & BENCHMARKING WITH MENA COUNTRIES

The theory studies the relationship between finance and growth has been enriched by the work of (McKinnon and Shaw, 1960). These authors show that developing countries are characterized by economies with repressed financial systems. Which have low performance in savings mobilization and financing effective projects. The authors propose the establishment of a financial liberalization policy that would boost financial intermediaries and able to boost macroeconomic activity.

So's work (McKinnon and Shaw, 1973) advocate a liberalization of the financial system by abandoning economic policy setting interest rates, credit framing or involved in the granting of loans, establishing priority sectors.

Analysis of McKinnon is original because the author has noticed that for developing countries, it is not the scarcity of capital justifies underdevelopment of these countries, but rather the existence of distortions that mark the market internal capital. It explains the delay in developing countries through repression of their financial systems and the strict control of foreign trade by imposing tariffs and quotas.

Financial liberalization is supposed to increase the yield of the currency, encourage domestic savings and therefore find the resources to finance investment (whose yields are expected to rise).

2.3.1 ANALYSIS OF THE MOROCCAN FINANCIAL SYSTEM REFORMS

In the early eighties, Morocco has experienced imbalances in external accounts and public finances have forced the country to suspend its external payments. To ensure recovery of the balances and establish a sound basis for a resumption of growth, Morocco, with the support of the Bretton Woods Institutions, launched in 1983 a structural adjustment program. Reforms concerning the capital market have been introduced in the late eighties. But it is in the early ninety that the movement has accelerated. Especially with the elimination of credit, the gradual relaxation of mandatory job banks, liberalization of deposit and lending rates, and finally the new banking law in March 1993. All these measures have fundamentally changed the environment of Moroccan banks:

The competition for funds and lending has intensified, and the possibility for foreign banks to settle on the market of banking activity increased contestability of the market.

MAIN FEATURES OF THE REFORM OF THE FINANCIAL SYSTEM

On the eve of the implementation of the reforms, the Moroccan financial system had a segmented structure with an omnipresence of the state, including through specialized financial institutions, the prevalence of strong regulatory and a monetary policy based on technical of quantitative regulation, when the capital markets showed a marginal size and a low degree of diversification of instruments, making them unable to ensure adequate financing of the economy.

To overcome these shortcomings, important reforms have been carried out since the 1990s, to provide Morocco with a modern and robust financial system capable of providing an effective savings mobilization and efficient allocation in the circuit Economic.

Thus, a multifaceted approach was adopted, ranging from reform of the banking sector and capital markets with that of the monetary policy and exchange rates, in order to ensure greater consistency of interventions and improved competitiveness of the Moroccan financial system.

In the banking sector, three axes have been introduced, namely the reform of the legislative framework governing the activities of these institutions (principle of universal bank depositor protection, supervision of the banking system), strengthening of prudential regulation in accordance with international standards (solvency, liquidity, risk management, ...) and the deregulation of the banking business (rate liberalization and abolishment of jobs). Currently, the reforms are geared more towards strengthening the powers of the central bank and its independence and extending its control over all banking activities in the same way that a move towards close coordination between authorities Financial System control.

With regard to the reform of the capital market, there has to be emphasized that it was gradual. She hitched in 1993 to modernize the Casablanca stock exchange, the creation of brokerage firms and collective investment in transferable securities, and the establishment of an entity control, Ethical Control of Securities (Securities Commission).

The reform of the stock market has proliferated in 1996 with the computerization of the rating system, dematerialisation of securities and the establishment of a central depositary and the creation of a guarantee fund for customers. In 2006 and 2007, introduced reforms aimed at strengthening the transparency of funds, the Securities Commission's powers of control and increased transaction security system.

The insurance sector level, important reforms of the legal framework and progressive liberalization of tariffs on certain branches were conducted. These are part of the development objective of institutional savings and compliance sector to content concluded free trade agreements and international standards.

Along with these reform projects, actions have been undertaken on the forehead of monetary policy with the use of indirect instruments of control (Open Market, resumption of cash advances on tenders, ...) and the implementation the new statutes of Bank al Maghrib who spend more autonomy to the monetary authority and are intended to avoid conflicts of interest between fiscal and monetary policy.

Similarly, foreign exchange liberalization, begun in 1993, has seen major developments in line with the increasing openness and the gradual integration of the national economy in its regional and international space.

2.3.2 FINANCIAL LIBERALIZATION AND THE BEHAVIOR OF MOST REAL VARIABLES IN MOROCCO

Financial liberalization can attract capital flows as foreign investors are legally allowed to hold securities on domestic markets. This is the simple and effective way to accelerate the process of economic growth in developing countries, based on a better mobilization and allocation of resources between investment and savings, in Morocco the financial liberalization process is carefully and slowly.

Morocco, like other developing countries, was a repressed financial system manifested by administered interest rates, funding largely intermediated and where credit control procedures were direct.

Since the early 90s, the financial sector in Morocco was a liberalization movement marked by reforms (3D: Deregulation, decompartmentalisation disintermediation) supported by a series of initiatives of the World Bank. These reforms focused on the banking sector (1991-1995), the capital market development and further liberalization of the financial sector (since 1996).

Indeed, financial reform has resulted in the spread of universal banking, the liberalization of interest rates and deregulation of the banking business. This movement took shape through the lifting of credit restrictions in 1991, abolishes jobs between 1992 and 1998 as well as the gradual liberalization of deposit interest rates in 1985 and lending rates from 1990.

This action was consolidated by the redesign in 1993, the legal framework governing the activity of credit institutions has brought a new dynamic to this sector. It had, indeed, a remarkable development loans and deposits. Meanwhile, banks have developed new products such as certificates of deposit, credit and adopted new techniques based on those in force internationally

In addition to the establishment of a foreign exchange market in 1996, a gradual capital account liberalization was initiated with the adoption of new measures in 2007. This is especially the relaxation of Moroccan banks investment conditions abroad, the duration has been increased to 5 years, liberalization of foreign investment for the 10% height UCITS portfolios The liberalization of foreign direct investment to the tune of 30 million dirhams, and the elimination of prior authorization for the placement of 5% by insurance companies of their assets abroad.

2.3.3 A COMPARATIVE ANALYSIS WITH THE MENA COUNTRIES

An analysis of the relationship between financial development and economic growth in the MENA region by highlighting the main factors that determine the financial sector in 12 countries of the region

Four financial development indicators were considered in this study: Liquid assets and credit to the private sector as a percentage of GDP and the size of the financial market and depth. Among the determinants of financial development, macroeconomic fundamentals are retained (economic growth, inflation, savings, investment, economic openness and financial liberalization), a fiscal policy indicator (government spending) and indicators measuring the institutional quality (Bureaucracy, corruption, etc.)

the activity of the banking sector, but rather promotes the emergence of the financial market that seems more responsive and allows the creation of financial diversification opportunities in front of a banking system expected to grow further. Another significant difference between the development of banking and investment market for the role of inflation. Indeed, economic agents apprehend the effect of inflation on the value of liquid assets in the banking system. However, they are able to seek riskier opportunities in the financial market hoping to spot potential returns as arbitration against high inflation. In the same vein, the investment has mixed effects on the development of the financial sector. Rightly, a high level of investment mobilizes resources in the banking sector and has a positive impact on key indicators considered. By contrast, investment growth diverts potential resources for the development of the financial market. Moreover, trade openness has a similar effect favorable to the development of the financial sector in its various components (banking and financial market).

In short, all the results emphasizes the importance of macroeconomic fundamentals and institutional quality indicators in promoting the development of the financial system. In general, the banking and non-banking sector appear to be complementary to their main determinants. Hence the need to define parallel measures in the two sectors to maximize the added value of financial development on economic activity.

3 ECONOMETRIC STUDY AND METHODOLOGY OF FINANCIAL DEVELOPMENT'S CONTRIBUTION TO ECONOMIC GROWTH IN MOROCCO

Objective: the long-term relationship study between growth and financial development.

Methodology: Analysis of Cointegration presented by Granger (1983) and Engel, is considered by many economists as one of the most important new concepts in the field of econometrics and time series analysis.

- It clearly identifies the true relationship between two variables by searching the existence of a cointegration vector and eliminating its effect, if any.
- The concept of co-integration allows to highlight stable long-term relationships between stationary series. This concept reproduces the existence of a long-term equilibrium and hazard and can be interpreted as a distance at time t relative to this balance.
- The problem is to determine whether the series are cointegrated then a model to estimate the long-term relationship and short term between the variables.

4 DATA DESCRIPTION

Choice of variables:

The series used consist of annual variations:

Data is extracted from the database of:

• The Direction of Studies and Financial Forecasting: DEPF

• BANK-Almaghrib

Period : 1980- 2012To GDP at current prices,

Period : 1970- 2007 for data: Private credit by commercial banks / GDP Credit / GDP Financial Development Index, financial liberalization index, M3 / GDP

- **GDP current prices:** growth indicator, a measure of the wealth created in a given country in a given year. Basically, it is calculated as the sum of the value added in the country.
- **From Financial Development Index:** financial development is defined as a process that marks the improvement in the quantity, quality and efficiency of financial intermediary services. This process involves the interaction of several activities and institutions. Therefore, it can not be sensed by a single measurement
- **Financial liberalization index:** It is a proxy for financial liberalization. This index is constructed according to the methodology proposed by Demetriades and Luintel (1996) and Bandria et al (2000). By codifying the various financial reforms (interest rates, elimination of credit, bank competition ...), we assign the value 1 since the entry into force of the reform, and before 0. Next, we construct a synthetic index based on the main components

• **M3 / GDP** ratio that measures the liquidity in the economy.

• **CREDIT / GDP** measures the loans granted to the private sector.

• **Private credit by commercial banks / GDP**

5 APPLICATION, RESULTS AND INTERPRETATIONS

This is to study the nature of the relationship between financial development and economic development in Morocco. We conducted cointegration tests for the study of long-term relationship between the financial sphere and the real economy. We then estimate the errors in correction model to test the possibility of existence of a short-term relationship between financial development and economic development in Morocco. To perform this study we conducted in stages.

The steps we will follow in our approach are:

• Formulation of the model.

• Stationarity and variable integration order.

- Determination of optimal number of delays.
- cointegration test and determination of the relationship the long term.
- Estimation of the error correction model.
- Model validity test has error correction.

5.1 FORMULATION OF THE MODEL

- The model we are trying to estimate is:

Lnpib= ϐ(1) + ϐ (2)*banque+ ϐ(3)*crd+ ϐ(4)*inddev+ϐ(5)*indlib+ϐ(6)*ratio

With:

Lnpib : GDP at current prices

Banque : Private credit by commercial banks / GDP

Crd : Credit / GDP

Inddev : Financial Development Index

Indlib : financial liberalization index

Ratio : M3 / GDP

The behavior of the economic growth in Morocco over the period 1980-2012.

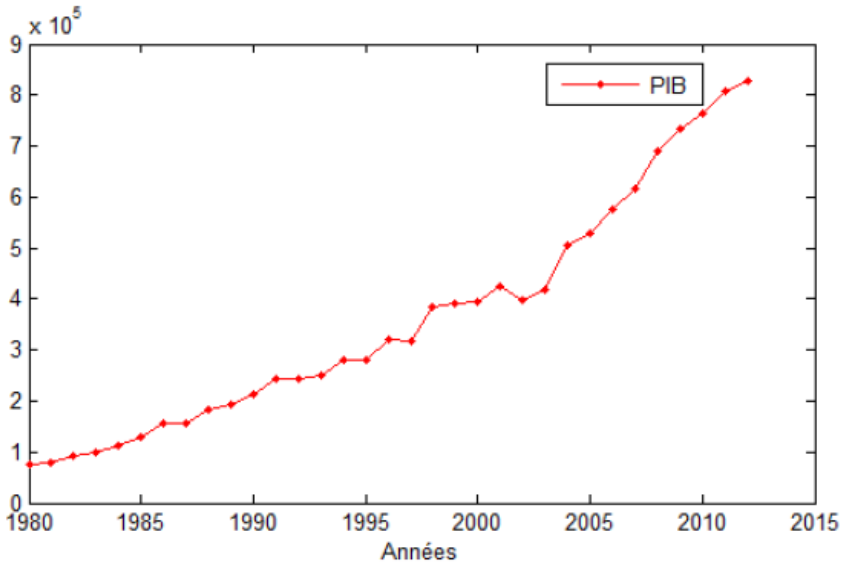


Figure 2 : Evolution du PIB courant (1980-2012)

Morocco has made promising economic performance that some have interpreted as a transition of the Moroccan economy to a higher growth path. To understand the dynamics of economic growth in Morocco, it is important to further investigate its determinants in the light of the theoretical and empirical evidence available.

5.2 STATIONARITY AND VARIABLE INTEGRATION ORDER

* Graphic examination of variables in levels show that the series are not stationary .the standard econometric models are not appropriate for the estimation of the relationship between these variables as they only give spurious regressions. Consequently, only one solution is possible: the cointegration .we will follow in the following major steps to implement to estimate an error correction model.

* The first step: is devoted to the study of stochastic properties of studied time series. This is to test the stationarity of the variables. Indeed before processing a time series should be studied its stochastic characteristics. The series is called stationary if its expectation and variance are independent of time (invariant) otherwise it is called non-stationary.

Table 1 reports the results of the study of stationarity of the series. All series are integrated of order one [I (1)] that is to say, they were stationary in first differences

Results of the ADF test of stationarity :

Variable	T.statistique	Degré d'intégration
PIB Courant	**-6.638350**	**I(1)**
Crédit/PIB	**-2.672839**	**I(1)**
M 3/PIB	**-6.080749**	**I(1)**
credit_prive_par_banque1	**-3 ,0546**	**I(1)**
ILF	**-2 ,038207**	**I(1)**
IDF	**-4,459328**	**I(1)**

Table 1 reports the results of the study of stationarity of the series. All series are integrated of order one [I (1)] that is to say, they are stationary in first differences.

5.3 DETERMINATION OF OPTIMAL NUMBER OF DELAYS

Lag	LogL	LR	FPE	AIC	SC	HQ
0	847.5970	NA	5.24e-29	-48.09126	-47.82463	-47.99922
1	1134.608	459.2170	3.19e-35	-62.43472	-60.56830*	-61.79043
2	1177.390	53.78373	2.62e-35	-62.82229	-59.35609	-61.62576
3	1240.273	57.49307*	9.89e-36*	-64.35847*	-59.29248	-62.60969*

- The number of delay corresponds to the values that minimize the Akaike and Schwarz criteria in the table delay: We sought to determine the optimal number of delays that minimizes both criteria (AIC AND SC) and Hannan Quin criteria.
- The number of lags to remember is 3.

5.4 COINTEGRATION TEST AND DETERMINING THE LONG-TERM RELATIONSHIP:

Johansen's approach

- The necessary condition of cointegration is checked (same degree of integration of the different series), it is now necessary to examine the second condition involves the estimation of the long-term relationship. We believe by Ordinary Least Squares (OLS) the long-term relationship between the variables.
- The first test is to estimate the static relationship between the variables OLS method, the study of residue stationarity provides information on the existence of a cointegration relationship.

Dependent Variable: LNPIB
Method: Least Squares
Date: 03/05/15 Time: 15:08
Sample: 1970 2007
Included observations: 38

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-315131.4	235034.5	-1.340788	0.1894
BANQUE	-88872.59	271045.0	-0.327889	0.7451
CRD	650339.2	236321.2	2.751929	0.0097
INDDEV	-63557.55	104398.5	-0.608798	0.5470
INDLIB	41879.67	25999.26	1.610803	0.1170
RATIO	514136.1	287972.6	1.785365	0.0837

R-squared	0.961660	Mean dependent var	213773.4
Adjusted R-squared	0.955669	S.D. dependent var	164873.3
S.E. of regression	34713.95	Akaike info criterion	23.89161
Sum squared resid	3.86E+10	Schwarz criterion	24.15018
Log likelihood	-447.9406	F-statistic	160.5260
Durbin-Watson stat	1.637279	Prob(F-statistic)	0.000000

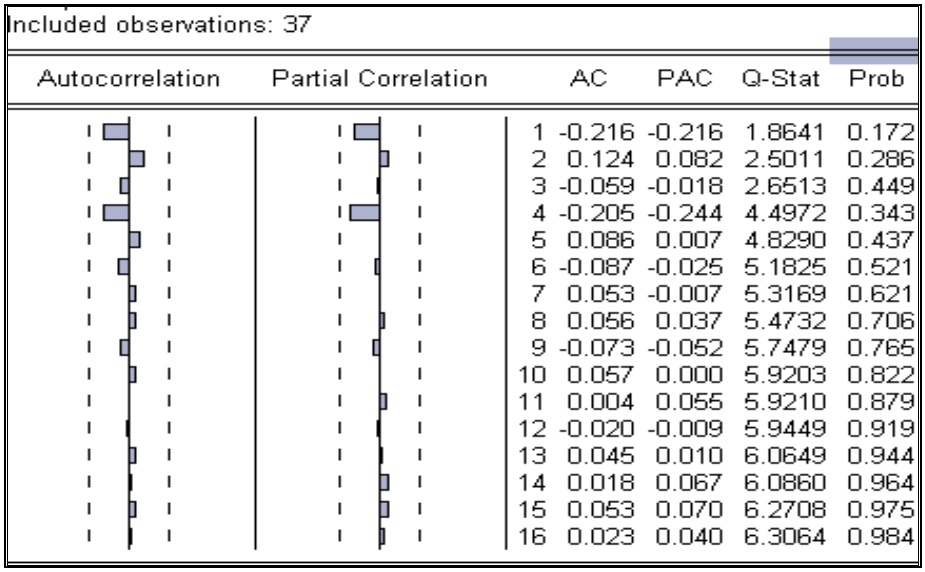
The model is globally significant, the study of the stationarity of residuals Dickey-Fuller via the test gives the following results

DICKEY FULLER TEST ON RESIDUES :

Null Hypothesis: D(RESID01) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.805338	0.0000
Test critical values:	1% level	-4.234972	
	5% level	-3.540328	
	10% level	-3.202445	

*MacKinnon (1996) one-sided p-values.



Included observations: 37

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.216	-0.216	1.8641	0.172
		2	0.124	0.082	2.5011	0.286
		3	-0.059	-0.018	2.6513	0.449
		4	-0.205	-0.244	4.4972	0.343
		5	0.086	0.007	4.8290	0.437
		6	-0.087	-0.025	5.1825	0.521
		7	0.053	-0.007	5.3169	0.621
		8	0.056	0.037	5.4732	0.706
		9	-0.073	-0.052	5.7479	0.765
		10	0.057	0.000	5.9203	0.822
		11	0.004	0.055	5.9210	0.879
		12	-0.020	-0.009	5.9449	0.919
		13	0.045	0.010	6.0649	0.944
		14	0.018	0.067	6.0860	0.964
		15	0.053	0.070	6.2708	0.975
		16	0.023	0.040	6.3064	0.984

We can not read here the table Dickey-Fuller, we must look at the table of Engle and Yoo.

So we have -7.805338 <-3.37, we accept H1: the residue series is stationary.

The series are cointegrated. We can estimate an error correction model.

Cointegration test: The approach of Johansen

The approach of Johansen multivariate test, we will try to study the cointegration and ECM with all the series that has the same characteristic (integrated of order(1).

After determining the order of integration of the three series we will move to cointegration test. The application of the test is done with the accuracy of the model among the five models Johansen:

1. No trend in the series and cointegration relationship does not include a constant.
2. No trend in the series and cointegration includes a constant.
3. Existence of a trend in the series and cointegration contains just a constant.
4. The series and cointegration contain a trend.
5. The series presents a quadratic trend and cointegration contains a linear trend.

The equation is as follows:

Lnpib banque crd inddev indlib ratio

Sample (adjusted): 1974 2007
Included observations: 34 after adjustments
Trend assumption: Linear deterministic trend
Series: LNPIB BANQUE CRD INDDEV INDLIB RATIO
Lags interval (in first differences): 1 to 3

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.991648	318.6019	95.75366	0.0000
At most 1 *	0.849063	155.9051	69.81889	0.0000
At most 2 *	0.744967	91.61481	47.85613	0.0000
At most 3 *	0.559771	45.15852	29.79707	0.0004
At most 4 *	0.383210	17.26285	15.49471	0.0268
At most 5	0.024206	0.833124	3.841466	0.3614

Trace test indicates 5 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level

Results:

According to Johansen cointegration test, and from the trace of the impact matrix there are more than five cointegration at the 5% level. Which ensures the existence of cointegration relationships between economic growth as measured by GDP and Financial Development Index In the index of financial liberalization, the credit / GDP, the liquidity ratio m3 / GDP and bank credit private trade / GDP (Appendix 3)

First equation (s) cointegration:

- ✓ **LNPIB=- 0.66BANQUE+ 22CRD+-0.75 INDDEV+0.44INDLIB+ -21 RATIO+Z**

1 Cointegrating Equation(s): Log likelihood 1247.812

Normalized cointegrating coefficients (standard error in parentheses)

LNPIB	BANQUE	CRD	INDDEV	INDLIB	RATIO
1.000000	0.663469	221351.3	-0.756091	0.449830	-213200.6
	(0.79881)	(12091.1)	(0.14322)	(0.08964)	(14031.9)

Second equation (s) cointegration:

- ✓ **LNPIB= 18CRD +-0.73 INDDEV +0.54INDLIB + -20 RATIO + Z**
- ✓ **BQ= 61CRD +-0.032 INDDEV + -0.14 INDLIB + - 13 RATIO+Z**

2 Cointegrating Equation(s): Log likelihood 1279.957

Normalized cointegrating coefficients (standard error in parentheses)

LNPIB	BANQUE	CRD	INDDEV	INDLIB	RATIO
1.000000	0.000000	180832.1	-0.734303	0.545726	-204121.6
		(6159.52)	(0.05644)	(0.05967)	(7160.06)
0.000000	1.000000	61071.69	-0.032839	-0.144538	-13684.16
		(5423.52)	(0.04970)	(0.05254)	(6304.50)

Third equation (s) cointegration:

- ✓ **LNPIB= -1.03INDDEV+ 0.087INDLIB +-19RATIO+Z**
- ✓ **BQ= -0.13INDDEV+ -0.03INDLIB +-12RATIO+Z**
- ✓ **CRD= 1.65INDDEV +-1.83INDLIB +-0.02RATIO+Z**

3 Cointegrating Equation(s): Log likelihood 1303.185

Normalized cointegrating coefficients (standard error in parentheses)

LNPIB	BANQUE	CRD	INDDEV	INDLIB	RATIO
1.000000	0.000000	0.000000	-1.031919	0.876465	-199841.9
			(0.12033)	(0.12582)	(6928.04)
0.000000	1.000000	0.000000	-0.133352	-0.032839	-12238.79
			(0.01779)	(0.01860)	(1024.29)
0.000000	0.000000	1.000000	1.65E-06	-1.83E-06	-0.023667
			(7.8E-07)	(8.2E-07)	(0.04519)

Fourth equation (s) cointegration:

- ✓ **LNPIB=-0.18INDLIB + -13RATIO +Z**
- ✓ **BQ= -0.17INDLIB + -35 RATIO +Z**
- ✓ **CRD= -1.30INDLIB + -0.13RATIO +Z**
- ✓ **INDDEV= -1.03INDLIB + 65RATIO +Z**

4 Cointegrating Equation(s): Log likelihood 1317.133

Normalized cointegrating coefficients (standard error in parentheses)

LNPIB	BANQUE	CRD	INDDEV	INDLIB	RATIO
1.000000	0.000000	0.000000	0.000000	-0.188524	-132412.7
				(0.06073)	(9973.62)
0.000000	1.000000	0.000000	0.000000	-0.170464	-3525.100
				(0.00952)	(1564.10)
0.000000	0.000000	1.000000	0.000000	-1.30E-07	-0.131210
				(2.6E-07)	(0.04248)
0.000000	0.000000	0.000000	1.000000	-1.032046	65343.47
				(0.05757)	(9455.30)

Fifth equation (s) cointegration:

- ✓ **LNPIB=-26RATIO +Z**
- ✓ **BQ=- 12RATIO +Z**
- ✓ **CRD= -0.22RATIO +Z**
- ✓ **INDDEV=- 66RATIO +Z**
- ✓ **INDLIB= -70RATIO +Z**

5 Cointegrating Equation(s): Log likelihood 1325.348

Normalized cointegrating coefficients (standard error in parentheses)

LNPIB	BANQUE	CRD	INDDEV	INDLIB	RATIO
1.000000	0.000000	0.000000	0.000000	0.000000	-265709.1
					(17557.8)
0.000000	1.000000	0.000000	0.000000	0.000000	-124052.5
					(14000.0)
0.000000	0.000000	1.000000	0.000000	0.000000	-0.223424
					(0.02797)
0.000000	0.000000	0.000000	1.000000	0.000000	-664368.8
					(83852.4)
0.000000	0.000000	0.000000	0.000000	1.000000	-707053.9
					(80943.6)

The previous tables and equations presented cointegration shows the existence of cointegration relationships between economic growth as measured by GDP on one hand and the Financial Development Index In the index of financial liberalization, the credit / GDP, m3 / GDP (current ratio) and the private credit by commercial banks / GDP. These empirical results are broadly consistent with those obtained by other researchers

5.5 ESTIMATION OF THE ERROR CORRECTION MODEL

It involves estimating the error correction model. Around the long-term relationship with the Model Error Correction allows the integration of short-term fluctuations.

Long-term test

- *Lnpib banque crd inddev indlib ratio* ***lnpib inddev***

Cointegrating Eq:	CointEq1
LNPIB(-1)	1.000000
BANQUE(-1)	-9.897669 (1.01375) [-9.76341]
CRD(-1)	37252.68 (17091.3) [2.17963]
INDDEV(-1)	-0.149187 (0.25400) [-0.58736]
INDLIB(-1)	1.717503 (0.24534) [7.00044]
RATIO(-1)	-114089.7 (21785.8) [-5.23687]
C	-9.744598

Cointegrating Eq:	CointEq1	
LNPIB(-1)	1.000000	
INDDEV(-1)	-0.325897 (0.22763) [-1.43171]	
C	-11.93110	
Error Correction:	D(LNPIB)	D(INDDEV)
CointEq1	-0.060833 (0.01688) [-3.60454]	0.089306 (0.04201) [2.12572]
D(LNPIB(-1))	-0.052077 (0.20123) [-0.25879]	0.725495 (0.50093) [1.44829]
D(LNPIB(-2))	-0.263410 (0.20603) [-1.27847]	0.308272 (0.51289) [0.60105]

The model chosen for the long term:

D(LnPib) = -0,063188 *(Lnpib (-1) +C1*banque (-1) +C2*crd (-1) +

+ C3* inddev (-1) + C4* indlib (-1) +C5*ratio (-1) +C) +C'1*D (Lnpib (-1))..

There is an undeniable positive and significant effect of financial development index that long-term growth influences This shows that the Moroccan financial system has become able to function effectively in the mobilization of savings, on the efficient allocation of resources and, especially in encouraging technological innovation.

- liquidity ratio m3 / GDP which also positively influences the long-term growth. These empirical results are broadly consistent with those obtained by other researchers.
- The liquidity (M3) acts positively on growth suggesting that any increase in liquidity in the economy acts favorably on growth,
- the impact of financial liberalization is mixed; This empirical result can be explained by the fact that Au Morocco the financial liberalization process is carefully and slowly.

Short-term test

Error Correction:	D(LNPIB)	D(BANQUE)	D(CRD)	D(INDDEV)	D(INDLIB)	D(RATIO)
CointEq1	-0.063188	0.043315	5.78E-07	0.097528	0.205915	3.26E-07
	(0.03304)	(0.00869)	(6.0E-07)	(0.06932)	(0.05925)	(6.9E-07)
	[-1.91267]	[4.98719]	[0.96450]	[1.40701]	[3.47548]	[0.47364]
D(LNPIB(-1))	-0.246929	0.145376	9.85E-07	1.631942	0.010298	-1.37E-06
	(0.27407)	(0.07205)	(5.0E-06)	(0.57504)	(0.49152)	(5.7E-06)
	[-0.90097]	[2.01764]	[0.19804]	[2.83798]	[0.02095]	[-0.23917]
D(BANQUE(-1))	-0.383607	0.339987	8.13E-07	0.940056	-1.282211	-9.39E-06
	(0.52764)	(0.13871)	(9.6E-06)	(1.10705)	(0.94627)	(1.1E-05)
	[-0.72703]	[2.45098]	[0.08490]	[0.84915]	[-1.35502]	[-0.85365]
D(CRD(-1))	11484.46	-3551.273	1.121650	15608.10	-42574.64	0.557635
	(10088.1)	(2652.15)	(0.18305)	(21166.3)	(18092.1)	(0.21021)
	[1.13842]	[-1.33902]	[6.12763]	[0.73740]	[-2.35322]	[2.65280]
D(INDDEV(-1))	0.054746	0.019560	-5.78E-06	0.195059	0.595489	-1.62E-06
	(0.11652)	(0.03063)	(2.1E-06)	(0.24447)	(0.20896)	(2.4E-06)
	[0.46985]	[0.63854]	[-2.73548]	[0.79789]	[2.84974]	[-0.66612]
D(INDLIB(-1))	0.087641	-0.072095	9.99E-07	0.174063	-0.644628	-9.13E-07
	(0.14969)	(0.03935)	(2.7E-06)	(0.31407)	(0.26845)	(3.1E-06)
	[0.58548]	[-1.83200]	[0.36784]	[0.55422]	[-2.40125]	[-0.29257]
D(RATIO(-1))	-1432.172	-74.09157	-0.631801	-60147.74	36919.06	-0.310703
	(17167.6)	(4513.33)	(0.31150)	(36020.0)	(30788.5)	(0.35772)

- According to the use of the error correction model (ECM): We found a negative -0.063188 result:
- The -0.063188 coefficient reflects a restoring force towards long-term equilibrium. It should be significantly negative: this coefficient can correct the deviation of GDP relative to the long-term relationship between the variables used with for a year
- In our case we retains the specification of the MCEV, otherwise, if the coefficient is positive, we can not hold the specification of the model error correction, instead of having a catch mechanism, there will be a process that deviates from the long-term target; thereby translated phenomena imbalances and lack of convergence to equilibrium.
- There is a confirmation of the hypothesis that the return to long-run equilibrium.
- The model error correction indicates that the restoring force exists for Cointegration relationship
- The in Error Correction showed us that there is a short-term relationship model between the various measures of financial development and economic growth

Cointegrating Eq:	CointEq1	CointEq2	CointEq3	CointEq4	CointEq5
LNPIB(-1)	1.000000	0.000000	0.000000	0.000000	0.000000
BANQUE(-1)	0.000000	1.000000	0.000000	0.000000	0.000000
CRD(-1)	0.000000	0.000000	1.000000	0.000000	0.000000
INDDEV(-1)	0.000000	0.000000	0.000000	1.000000	0.000000
INDLIB(-1)	0.000000	0.000000	0.000000	0.000000	1.000000
RATIO(-1)	-265709.1	-124052.5	-0.223424	-664368.8	-707053.9
	(20774.7)	(16565.1)	(0.03309)	(99215.5)	(95773.8)
	[-12.7900]	[-7.48881]	[-6.75172]	[-6.69622]	[-7.38254]
C	-13.43861	-0.954418	3.85E-06	-3.662586	-3.886219

Error Correction:	D(LNPIB)	D(BANQUE)	D(CRD)	D(INDDEV)	D(INDLIB)	D(RATIO)
CointEq1	-0.125720	-0.079512	1.80E-06	1.429792	0.860540	3.70E-06
	(0.30840)	(0.05510)	(4.3E-06)	(0.81578)	(0.50085)	(3.3E-06)
	[-0.40765]	[-1.44302]	[0.42141]	[1.75267]	[1.71818]	[1.10325]
CointEq2	0.772219	0.231597	-5.80E-06	-1.482778	-9.476130	-3.30E-05
	(1.25218)	(0.22372)	(1.7E-05)	(3.31228)	(2.03356)	(1.4E-05)
	[0.61670]	[1.03519]	[-0.33547]	[-0.44766]	[-4.65986]	[-2.42823]
CointEq3	-13699.44	53.42178	-0.332907	126798.9	411.1985	-0.008041
	(35898.5)	(6413.91)	(0.49603)	(94959.1)	(58299.9)	(0.38995)
	[-0.38162]	[0.00833]	[-0.67115]	[1.33530]	[0.00705]	[-0.02062]
CointEq4	0.280111	-0.044984	-3.07E-06	-1.458728	0.668821	1.29E-06
	(0.28420)	(0.05078)	(3.9E-06)	(0.75178)	(0.46155)	(3.1E-06)
	[0.98560]	[-0.88591]	[-0.78219]	[-1.94038]	[1.44908]	[0.41740]
CointEq5	-0.366240	0.023379	3.36E-06	1.383976	0.776902	3.93E-06
	(0.22384)	(0.03999)	(3.1E-06)	(0.59211)	(0.36353)	(2.4E-06)
	[-1.63614]	[0.58456]	[1.08508]	[2.33735]	[2.13713]	[1.61716]

5.6 MODEL VALIDITY -TEST HAS ERROR CORRECTION

Included observations: 37

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.216	-0.216	1.8641	0.172
		2	0.124	0.082	2.5011	0.286
		3	-0.059	-0.018	2.6513	0.449
		4	-0.205	-0.244	4.4972	0.343
		5	0.086	0.007	4.8290	0.437
		6	-0.087	-0.025	5.1825	0.521
		7	0.053	-0.007	5.3169	0.621
		8	0.056	0.037	5.4732	0.706
		9	-0.073	-0.052	5.7479	0.765
		10	0.057	0.000	5.9203	0.822
		11	0.004	0.055	5.9210	0.879
		12	-0.020	-0.009	5.9449	0.919
		13	0.045	0.010	6.0649	0.944
		14	0.018	0.067	6.0860	0.964
		15	0.053	0.070	6.2708	0.975
		16	0.023	0.040	6.3064	0.984

- According to Statistics Ljung Box has a probability of 0.98> 0.05 so the null hypothesis of white noise is accepted.
- Since we tested the hypothesis acceptance of the model we can retain it as long-term relationship between GDP and selected variables including financial development index

Results of Granger causality

Null Hypothesis:	Obs	F-Statistic	Probability
BANQUE does not Granger Cause LNPIB	35	0.78462	0.51259
LNPIB does not Granger Cause BANQUE		1.63394	0.20393
CRD does not Granger Cause LNPIB	35	1.05664	0.38317
LNPIB does not Granger Cause CRD		3.97678	0.01767
INDDEV does not Granger Cause LNPIB	35	1.84241	0.16240
LNPIB does not Granger Cause INDDEV		1.56356	0.22026
INDLIB does not Granger Cause LNPIB	35	1.02850	0.39502
LNPIB does not Granger Cause INDLIB		1.66530	0.19706
RATIO does not Granger Cause LNPIB	35	1.72552	0.18450
LNPIB does not Granger Cause RATIO		0.73265	0.54127
CRD does not Granger Cause BANQUE	35	0.25491	0.85717
BANQUE does not Granger Cause CRD		1.34343	0.28032
INDDEV does not Granger Cause BANQUE	35	2.69775	0.06487
BANQUE does not Granger Cause INDDEV		0.19554	0.89854
INDLIB does not Granger Cause BANQUE	35	14.7867	5.8E-06
BANQUE does not Granger Cause INDLIB		1.32011	0.28756

The use of the Granger causality test showed that the relationship between financial variables and real variables is verified in both directions; while the cointegration test showed that the variables are related in the long term;

6 CONCLUSION

During this empirical investigation we have shown that there is a positive and significant effect of financial development index that long-term growth influences This shows that the Moroccan financial system has become able to perform effectivelyin termes of the mobilization of savings, of the efficient allocation of resources and, especially in encouraging technological innovation.

- the liquidity ratio m3 / GDP also positively influences the long-term growth. These empirical results are broadly consistent with those obtained by other researchers. Liquidity (M3) acts positively on growth suggesting that any increase in liquidity in the economy acts favorably on growth.
- the impact of financial liberalization is mixed; This empirical result can be explained by the fact that in Morocco the financial liberalization process is carefully and slowly.
- Economic development measured by GDP growth has a long-run equilibrium relationship with financial development. And financial development in Morocco has played an important role in economic growth. But it remains far from fully playing its role in collecting and improving resource allocation.
- The econometric analysis made by our work for the case of Morocco showed through the variables treated that there's an effect on long-term of the finance on growth. According to the use of the error correction model (ECM): We found a negative result of restoring force coefficient.
- This coefficient reflects a restoring force towards long-term equilibrium. It should be significantly negative: this coefficient can correct the deviation of GDP relative to the long-term relationship between the variables used within a year
- In our case we retains the specification of the MCEV, otherwise, if the coefficient is positive, we can not hold the specification of the model error correction, instead of having a catch mechanism, there will be a process that deviates from the long-term target; thereby it is translated by a phenomena of imbalances and lack of convergence to equilibrium.

- Morocco had experienced long periods of financial repression. During these periods the financial system was unable to perform its functions in terme of the mobilization of savings, of the efficient allocation of resources and, especially in encouraging technological innovation. Morocco has succeeded in establishing market mechanisms, breaking with financial repression and boosting the financial system through financial liberalization.
- Overall, this work shows that there is an undeniable effect of financial development on growth. If they still any questions, they carry on the importance of this effect between economies, as well as the desirable form of the financial system we want and, consequently, on the nature of appropriate public policies to guide the evolution and control potential deficiencies or excesses .

Financial development is probably profitable, but its forms should be taken are determined by the characteristics of the economic and social model that remains the subject of our collective choices.

Indeed, empirical tests show that the relationship between finance and growth is not easy to capture. Thus, the link between these two phenomena is complex and should be placed in a broader model that takes into account all economic behavior in order to capture the effects of different channels of communication between the real and financial blocks. The latter situation is all the more puzzling that the relationship between the two sectors is likely dependent on the country's level of development.

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