MEASURING THE IMPACT OF THE FINANCIAL DEVELOPMENT ON THE ECONOMIC GROWTH IN ALGERIA

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Abstract
        The developed banking system is considered as a key factor for the economic growth. The importance of this system is through the significant services done in economy such as mobilizing the local savings as deposits, offering loans, monitoring business managers, solving risks and facilitating the financial transactions.
This research aims to measure the impact of the banking development on the economic growth in Algeria using some indicators such as the bank credit divided on the gross domestic product (GDP), money supply to GDP, quaisi money to GDP using the co-integration method. Thus, we concluded that there is no relationship between the financial development and the economic growth in Algeria, and that the improvement in the fiscal and monetary indicators is primarily due to other factors such as the rising if fuel prices.

Keywords: Financial Development, Economic Growth, Fiscal and Monetary Indicators

Introduction:
        The financial system is a very significant element in economy since it does the process of transferring funds from surplus units to deficit units. This process is done either by the indirect financial flows (financial markets) or by the indirect financial flows (banks and financial institutions).
        The financial system consists of a set of financial institutions and financial markets which provide the necessary financial services such as providing credit and the means of payment.

413

The importance of this system increases with the increase of its effectiveness in mobilizing the financial resources and improving its distribution on the various economic activities and services. Moreover, it has a major role in stimulating the investments and thus accelerating the pace of the economic growth.

However, the financial systems in the developing countries are facing a lot of difficulties and obstacles that prevent them from doing their roles. In fact, they are suffering from the lack of effectiveness in mobilizing the financial resources, the poor distribution of loans in economy and the underdeveloped payment methods due to the laws and legislations made by the governments of these countries which practice tight control and large interference in their activities, and all this falls within the so-called 'Fiscal Restraint' which has been controlling the financial systems in the developing countries for a long time.

However, this policy was criticized by many economists like Shaw ; McKinnon 1973 who saw that the fiscal restraint policy as well as the government intervention in the banking business lead to the weakness of the banking system and to the reduction of saving and investment ; thus, the deterioration of the economic growth. For this reason, Shaw and McKinnon suggested the financial liberalization as an alternative resolution to achieve high economic growth rates.

Hence, many countries of the world went –since the nineties- to abandon the fiscal restraint policy and to apply the financial liberalization in order to accelerate the process of economic growth; however, the results were different due to the disparity in the development of the financial systems between the countries.

In a comprehensive study of the world bank in 1989 (1), it was confirmed that the rapid economic growth, the large investments, the savings and the financial depth are all higher in the countries that have a developed financial systems, and this means that there is a relationship between the financial development and the economic growth.

Based on this, the goal of this research is to measure the impact of this financial development on the economic growth in Algeria, as this topic is very important for the economic policy makers since this research will test the null hypothesis which states that the development of the Algerian banking system has no impact on the economic growth during the period 1970-2012.

1-   The relationship between financial development and economic growth (theoretical analysis):

The majority of economists consider that the financial development encourage the economic growth in the developed countries, since the

existence of a developed financial system allow the reinforcement of the financial sources according to the economy needs.

In accordance with many studies of experts-economists, especially Walter Baghit. related the financing to the economic growth, since he noticed the importance of the financial growth for the economic development in his seminal work "The description of financial market"(1873). As for Shumpter (1911) who stress on the importance of companies specialized on the financial mediation in facilitating the services exchanges and the project evaluation.

Patrick (1966) proved that the reciprocal relation between the financial development and the economic growth can be modified when the economic situation of any country changes.

Shaw and Mckinnon (1973) considered that the governmental interference in any country strengthen the economic growth by the decrease of the effective benefits.

Gold Smith (1969) revealed the connection between the financial development and the individual proportion in the global benefit.

Gurly and Show (1956) demonstrated that the development of the financial sector can influence: firstly, because this development revitalizes the companies diversification which increase the investment's capacities. Secondly, because this development can reinforce the economic growth.

Shaw and McKinnon 1973 have another idea about the effect of financial development on the economic growth, where they saw that government intervention in the financial system of any state inhibits the economic growth by lowering real interest rates. And that the ceilings on interest rates and high rates of statutory reserve credit programs directed are the sources of financial repression, which is the main reason for the low savings, credit and low investments; thus, achieving low economic growth rates. For this reason, they stressed the importance of financial liberalization.

2- Experimental studies of the relationship between financial development and economic growth:

There are some empirical studies that relied on large and different data and explanatory variables for the development of the financial growth, most of these studies concluded that there is a relationship between financial development and economic growth.

Gold Smith (1969) studied this relation basing his reflection on a sample containing 35 countries between 1860 and 1963. He established a parallel between the financial development and the economic growth.

King and Levin (1993) checked the veracity of the hypothesis relating the financial development to the economic growth, basing their study on 80

countries during the period (1960-1989), they deduced that the financial development encourage the happening of a positive economic growth.

Turunc (1999) considers that all the countries which realized a high level of saving and investment are those which have the most developed economic sector.

Eggoh(2009) did an applied study about a sample of 71 countries during the period 1960-2004, targeting the establishment of the relation between the financial development and the economic growth.

The Intentional Monetary Fund evaluated the financial development in the Middle East countries and North Africa countries. The Fund's experts evaluated the development of these countries basing the analysis on the following points:

1-   The monetary sector and monetary policy: the IMF studies in this area the use of regulatory bodies for the indirect tools of the monetary policy, as it evaluates various types of the available government securities and how they are distributed.

2-   Banking sector: its aim is to find out the extent of financial development. It finds that the level of commercial banks operating in a competitive environment efficiency rise more than those working under government restrictions.

3-   Regulation and control: the proper regulation and control in the banking sector represent an important aspect of the development of the financial sector, and regulators should ensure the protection of the interests of depositors, which in turn enhances confidence in the banking system and facilitates the financial intermediation process.

4-   Non-banking financial sector: The study in this area examines if there are any non-bank financial institutions.

5-   Financial openness: This study evaluates if there are strong restrictions on the trading of foreign residents or financial assets or currency.

6-   Institutional environment: The study in this field tries to judge the quality of the institutions relevant to the financial system.

The study shows that the most developed countries in the ranks of financial development are mostly characterized by:

-        Intensive use of indirect instruments of monetary policy.
-        Less ownership of the public sector in the financial institutions.
-        A higher degree of regulation and control.
-        Strong legal environment.
-        qualified human resources

Other studies have examined the development of the financial growth in the Middle East and North Africa: Treichel and wilsonandjbili chalk1996 concluded that some of these countries have made significant progress in

financial deepening but the financial markets in most of these countries are weak and severe restrictions are imposed on them.

Elhage fedelinc nashashibi2001 also concluded that most of the Arab countries have made progress over the past decade in the field of financial reform in the early stage of the process, and the commercial banks control their financial systems as well as some public banks.

3-   The indicators of the financial growth in Algeria:

The financial growth is a multi-dimensional concept and it is not easy to find a specific definition for it, but the Economic and Social Commission for Western Asia of UN defined it as a process embodied in the achievement of qualitative and quantitative improvements in the provision of financial services in an efficient way. The commercial Banks in particular do the basic functions in the economy, which are to mobilize savings, granting credit, monitoring managers, risk management and facilitating the process of exchange. That is why, the degree of banking system development in any country can be measured by the ability of banks to provide the previous functions well. Moreover, to study and determine the degree of banking sophistication is very important to determine the quality and quantity of contribution of the banks in the process of economic growth.

The number and type of indicators used to measure the degree of banking development differed from one researcher to another and generally there are six indicators, namely:

-       The proportion of the money supply in the broad sense to GDP.
-       The proportion of total deposits to GDP.
-       Quasi money ratio to GDP.
-       Credit to the private sector to the GDP.
-       Credit to the private sector to the total credit.
-       Assets of commercial banks to the total assets of commercial banks plus its central bank assets.

The first indicator is known as the indicator of money supply, it has been used extensively by economists such as Levin King 2000. The second indicator measures the ability of banks to mobilize deposits in their various forms. The third indicator gives a better image of the banking system's ability to attract long-term and the medium-term savings, which reflects the extent of its ability to provide financing for long-term investments. The fourth indicator measures the extent to which local banks contribute in granting loans and facilitates to the private sector. The fifth indicator reflects the process of distributing loans between the public and private sectors in the economy. Thus, the financial system which gives larger loans to the private sector is likely to be the qualified in the selection of successful investment projects.

For the last indicator, the largest ratio means that commercial banks provide a variety of financial services and the existence of a high level of the banking growth in economy. Concerning the Algerian economy, we will just review the three indicators for the development of the banking system, namely: the proportion of the money supply to GDP, Quasi money ratio to GDP and credit to the private sector to the gross domestic product (GDP).

4-   The evolution of financial growth indicators in Algeria:
1-   The evolution of the indicator of the money supply to GDP:

Table 1: The evolution of M_2/pib:

Years	1990	91	92	93	94	95	96	97	98	99	2000	2001	2002
M_2/pib	61%	49%	50%	55%	49%	40%	35%	39%	46%	46%	41%	48%	63%
Years	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
M_2/pib	63%	61%	55%	58%	57%	69%	67%	62%	61%	61%	62%	70%	

Source: done by the researcher basing on data from the World Bank.

This indicator measures the financial system level in the economy, and Table 1 shows the evolution of this indicator in Algeria during the period from 1990 to 2014. We note that this indicator knew a remarkable decline during the stage 1990 to 2000, when it moved from 61 in 1990 to 41 in 2000. This decline was the result of the application of a strict monetary policy in the framework of the agreement with the International Monetary Fund; however, after the year 2000, it increased to reach 70 in 2014, but this increase does not necessarily mean the increase in the role of financial intermediation, but it was a result of the rise of government spending on the one hand and the evolution of the parallel market on the other.

2-   The Evolution of Quasi-Money Indicator to the Gross Domestic Product (GDP):

Table 2: QM/PIB

Years	90	91	92	93	94	95	96	97	98	99	2000	2001	2002
QM /PIB	13%	10%	14%	15%	16%	14%	12%	14%	27%	27%	23%	29%	32%
Years	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
QM /PIB	33%	24%	21%	19%	19%	18%	22%	21%	19%	21%	23%	21%	

Source: done by the researcher basing on data from the World Bank.

This indicator measures the banking system's ability to attract long and medium-term savings and to fund long-term investments. Through the table, we can note that this indicator witnessed a remarkable development from 1990 to 2003, then it declined from 2004, and this reflects the weakness of the Algerian banking sector's ability to mobilize financial resources despite the reforms known in this field.

418

3-   *The Evolution of the Proportion of Loans to the Private Sector to the Gross Domestic Product (GDP):*

Table 03:   Indicator's Evolution

Years	90	91	92	93	94	95	96	97	98	99	2000	2001	2002
Cbp/Gdp	4.44%	3.7%	7.25%	6.61%	6.48%	5.19%	5.36%	3.90%	4.56%	5.38%	5.96%	8%	12.23%
Years	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Cbp/Gdp	11.36%	11.15%	12.11%	12.33%	13.35%	13.16%	16.50%	15.55%	15%	14.54%	16.69%	16%	

Source: Done by the researcher relying on International Bank Data.

From the above table, we find out that this index represents only a small rate from the gross domestic product. Thus, it doesn't surpass 7 %. However, in the developed countries, it attends 53% from the gross domestic product. It signifies that the banks do not finance the private sector, and although this rate has increased since 2003, it is still far in comparison to some Arab countries which possess a prosperous banking system.

Country	Algeria	Morocco	Tunisia	Jordan	Egypt
Cbp/Pib	7%	23.3%	53.1%	64.7%	23.4%

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5- Explanation of the model variables:

In order to determine and evaluate the nature of the relationship between the financial development and the economic growth in Algeria, we relied on the method of synchronous integration to find an eventual relationship in the long term between the economic growth and a number of indexes of the financial development during the period 1970 – 2012. Moreover, to apply this study, we were obliged to use the International Bank data. As the theoretical and applied studies which handled the models of self-growth in Algeria are few, it becomes difficult to find out the perfect model to use in this study. Thus, we tried to make the following model:

Log (GDPr)=C0+a1log(M2/GDP)+a2log(QM/GDP)+a3log(CBP/GDP)+∑i

PIBt: represents per capita gross domestic product during the period.

PIB/M2: represents the index of the economic liquidity, the rate of money supply.

QM/BIP: represents the quasi money. It is an index that measures the capacity of banks to attract savings for a long periods.

CBP/ BIP: represents the loans addressed to the private sector to the gross domestic product. These indexes have been used in various studies as a measurement to the financial development such as King 2000.

6- forming the model:

1-   The stability test:

In order to discover the time series of the variables, object of the present study, we have used Diki Foller's test. Table 01 is concerned with the stability test at the level, the results reveal that all the used variables are not stable at the general level, we find that the statistical absolute value T is inferior then 05%

Table04: Diki Foller's test developed at the level.

Variables	Calculated value	Extrema	Accepted hypothesis	Result
logPIBt	-1.545854	-1.952910	H0	Non stable
logM2/PIB	-1.277897	-1.948886	H0	Non stable
LogQM/PIB	-0.882139	-1.948886	H0	Non stable
LogCBP/PIB	-1.049093	-1.950687	H0	Non stable

Source: Done by the researcher relying on EVIEWS program

From the above results, we will try to restudy the stability of the variables taking into account the first difference. Table 05 shows the results of the Dik foller's test. We find out that the calculated values are all bigger than the extrema (with the absolute value), therefore, we reject the nothingness hypothesis, and accept the alternative one which stipulates that there is no unit root i.e. variables that we are studying are stable in the first difference .

Table 05: Diki foller's test developed at the level with taking the first difference

Variables	Calculated value	Extrema	Accepted hypothesis	Result
logPIBt	-7.684205	-1.952910	H1	Stable
logM2/PIB	-6.788525	-1.949097	H1	Stable
LogQM/PIB	-6.764923	-1.949097	H1	Stable
LogCBP/PIB	-3.179767	-1.950687	H1	Stable

Source: Done by the researcher relying on EVIEWS program

2-   Tests of determining the period of the perfect deceleration for the model addressed to correct the error:

In order to determine the period of deceleration, we relied on a set of tests : SC, HQ and AIC which realize the best evaluation of the model of correcting the error. The table 6 shows that the best deceleration period is a period of two decelerations. The values of the used tests took their inferior value in the period of two decelerations.

Table6: tests of the perfect deceleration

Period of deceleration	AIC	HQ	SC
0	6.548220	6.597885	6.74569
1	3.690454	3.938779	4.677840
2	-10.48703	-10.04004	-8.709734

Source: Done by the researcher relying on EVIEWS program

3-   Johanson's Test of Cointegration:
According to the results of the test of the unit's root which revealed that it is not stable at the same level I1, so we will evaluate the cointegration model by use of the Johanson's style. We will take all the variables: per capita gross domestic product, the index of the economic liquidity, the rate of money supply, the quasi money. It is an index that measures the capacity of banks to attract savings for a long periods and the loans addressed to the private sector to the gross domestic product. Johanson suggests two tests of evaluating cointegration numbers which are the test of the effect and the test of the maxima.

In our study, we will test only the effect since it is small, but also in case there will be more than two variables and the most important is the fact that this test shows whether there would be an exceptional cointegration. The later happens only when the stable variable derives which is of paramount importance in the cointegration theory that indicates that in case there is no exceptional cointegration, the equilibrium relationship between the variables will not produce.

Table 07: Test of the effect

probability	Extrema	Statistical effect	Hypothesis
0.000	47.85613	107.3318	One integration
0.000	29.79707	51.85274	There are at least two integrations
0.7026	15.49471	5.940395	There are at least three integrations
0.1653	3.841466	1.924733	There are at least four integrations

Source: Done by the researcher relying on EVIEWS program

From the above table, we deduce that the number of the cointegration is R = 2,. Thus, in this case, we reject nothingness hypothesis and accept the alternative one stipulating that there are two relationships of the cointegration in the long term between the autonomous variables and the variable related to the model. Since this test has been realized, this leads us to assume that we can move to the model of correcting the error.

4-   *The error correction model:*
This model is specially characterized by its separation of the relationship between the long term and the short term. Moreover, it is characterized by the best features related the small samples. In order to calculate to what extent the integration is possible between the variable within **ECM,** Persaran2001 presents a modern model of testing the equilibrium relationship (the long and the short term) between the variables. It is characterized by the possibility of applying it whether the variables were

integrated at the level I0 or at the level I1 or there was an integration between them at the same level, also it can applied for the small samples in difference to the traditional previous methods.

a-   The results of error correcting model (long term):

The results show that evaluating the cointegration by using error correcting model will be as follows:

$logPIB_t = - 22, 5logNM + 11.4log\ CRBP – 19,17$

   (3,39)   (6,03)

          $R_2=0,09$ fcl= 1,204

The results of this equation indicate a positive correlation between loans to the private sector and per capita to GDP, where the increase in loans to the private sector by 1% will increase per capita to GDP by 11%.Whereas the relationship between the quasi-money and GDP was inverse as the increase in the quasi-money by 1% will decrease per capita to GDP by 22%.

From the results, we note that the value of the coefficient of determination debugger has reached $R2=0,009$ which means that Changes in per capita to GDP are explained by 9% through the variables included in the model. The remaining rate is interpreted by other variables which are not included in the model.

b-   The results of error correcting model (short term):

The existence of cointegration between the model variables means that the addition of error correction will adjust imbalances in the short term to equilibrium in the long term ; moreover, error correction represents the effect of the causal relationship in the long term. Through the obtained model, the value of coefficient error correction has reached 0,002 which means that there is an equilibrium relationship in the long-term that corrects the imbalances in the short term by 2% in the long term. We can sum up the results of the model as follows:

Table 8: Error Correction Model in the Short Term

	DlogPIB(-1)	$DlogM_2$/PIB(-1)	DlogNM(-1)	DlogCRPB(-1)
Correction factor	-0,002	-0,05	-0,0001	-0,14
DlogPIB(-1)	-0,822075	0,111635	0 ,000102	0,264590
$DlogM_2$/PIB(-1)	-477,6765	-212,7223	-1,434701	-784,212
DlogNM(-1)	0,512047	-0,192789	0,000257	-0,029144
DlogCRBP(-1)	1,120198	-0,005556	-0,O00148	O,401168
C	-13,424992	-5,916250	-0,039871	-21,85117

Source: done by the researcher basing on the program EVIEWS

Through the above table, we can formulate the model equation as follows:

$Dlog(PIB_t)= -0,82logPIB_{t-1}-0,74logPIB_{t-2}-477,67logM_2/PIB_{t-1}-$
$\qquad\qquad (0,43) \qquad\quad (0,37) \qquad\quad (1401)$
$479,06logM_2/PIB_{t-2}+0,51logNM_{t-1}-0,36logNM_{t-2}+1,12logCRBP_{t-1}-$
$0,06logCRBP_{t-2}-(1402) \qquad\qquad (0,91) \qquad\qquad (0,66) \qquad\qquad (1,007)$
$(2,20)$
$13,42$

It is seen from the equation model error correction in the short term that all the model parameters were not significant, as the value of t was smaller than the scheduled values at significant level of 5%, which means there is no causal relationship going from explanatory variables to the dependent variable which is per capita to GDP , but this does not prevent the existence of the impact of the explanatory variables of the model on the per capita to GDP in the short term as this model shows the values of the change in per capita to GDP in t time as a result of the values of the change taking place in itself and in the independent variables in t_{-1}. The increase in per capita to GDP in t_{-1} by 1% will decrease per capita in GDP in t by 0.82% and the increase in the change in the ratio of money supply to GDP in t_{-1} by 1% will decrease the change of per capita in GDP in t by 477,6%. The relationship between the change in both quasi-money and loans to the private sector in t_{-1} and per capita to GDP was positive, i.e., the increase of the changes of quasi-money in t_{-1} will increase the change of per capita to GDP by 0,51%, and the increase of loans in t_{-1} by 1% will increase the economic growth by 1,12%.

Through this study, we note that the variables under study which are the financial growth indicators were not significant statistically in the long and short terms. Despite all this, there is a negative impact of the variable of money supply in the short term but a positive impact of both quasi-money and loans to the private sector; however, in the long term, there is a negative impact of quasi-money and a positive impact of the loans directed to the private sector.

This reverse impact to the money supply as an indicator of financial growth is returned to the weakness of the financial and banking sectors in Algeria, despite the application of a range of financial and banking reforms and the reforms of financial liberalization since 1990. This means that these reforms did not achieve acceptable results in the activation of the role of the Algerian banking system in increasing the mobilization of financial resources, and this is contrary to the emphasize of the economic theory of the presence of a strong relationship between financial development and economic growth, but this result is not strange as some studies have revealed that there is no relationship between the banking development and economic

growth like the studies done by Chang 2002, Shan and Mories 2002, Dawsan 2003. The results were done by a tested sample; however, we cannot deny the importance of the development of the banking system in economic growth, and these results expressed the neglect of the banking system as an engine of economic growth and the reliance on other economic sectors.

As for the second variable; i.e., quasi money, it is attributable to the lack of the Algerian banking system's ability to bring a large amount of medium and long-term savings that ensure optimum use.

The third variable, loans to the private sector, despite the State's efforts to support the private sector, especially in the area of distribution of investment loans to private institutions; however, the policies followed by banks in the distribution of loans were characterized by non-optimal specialization of financial resources to guide them to meaningful investments in addition to the lack of financial market and banks specializing in financing investment in Algeria. All this had a negative impact on the private sector in particular, and the Algerian economy in general.

This is also supported by the study applied by the International Monetary Fund to classify some of countries according to the levels of financial growth, including Algeria, relying on 36 index, including quantitative and qualitative indicators of the monetary sector and the banking sector size, structure and effectiveness and quality of banking regulation, ranked Algeria in the second group, "medium financial development", which means that Algeria is among the countries that have began the liberalization of their financial sectors, but the reform is not completed and the financial development remains with low performance.

Conclusion :

Through the negative consequences of the application of financial repression policy in the developing countries and the desire of these countries to reduce government intervention in the economic and financial activities and the development of financial and banking systems in a way that makes them achieving positive and acceptable economic growth rates , and the need to cope with the financial and banking global developments of modern and cope with global economic and financial developments, these countries, including Algeria at the beginning of the nineties, went to adopt the market economy system and to liberalize their economies and financial systems through monetary and loan law. They included of a series of financial reforms depending especially on the financial liberalization policy reforms.

However, this policy requires necessary conditions to succeed such as financial development in order to have positive results on economic growth, and through this research we determined that the Algerian banking system is

not developed by using a set of indicators as a money supply to Gross Domestic Product (GDP), quasi-money to GDP, loans to the private sector to GDP, hence the banking system which is not developed cannot play an influential and effective role in promoting economic growth in Algeria during the period 1970-2012.

Therefore, it is necessary to take meaningful policies that seek to activate the role of the banking system in the economic growth process, to activate the role of the private sector in the economy and to reduce restrictions on the banking system which means the liberalization of the banking system from all financial repression policies.

References:
world bank(1989)world developpement report 1989,the world bank,oxford university pressp:30

Walter baghot(1873),"Lombard street: description of the money market», the poplar,wimbeldon,E.johston;hartelywithers,eds,London:henry   s.king   and co,april26,1873   available   in   the   following   URL: http://www.pdfbooks.co.za/library/walter-baghot/walter-baghot   lombard-street-mobile.pdf.

josefhA.schumpter(1991),"the theory of economic development",with a new introduction by jhonE.Elliot,tenth printing2004.available in the following URL: http//www.books.google.com

Gold smith(1969)"financial   structure   and   development",new   havenand London;yale   university   press1969,by   the   economic journal,vol.80$N_0$318,june1970.available   in   the   following URL:http//www.jstor.org/discover/10.2307/2230134?ind=3737904§ind=2129§ind=2§ind=70§ind=4§sid=211026.66994031.

johnG.Gurlyand   E.S.shaw(1956)"financial   aspect   of economiedevelopment"the   American   economie reviews,volume45number,september1956in pirrellau,"economie financiers publique"thémis,press   universitaire   de france(puf),1$^{\text{ére}}$editions,paris,1996,p117-180

RonaldI.Mckinnon(1973)"money and capital in economicdevelopment",the brooking   institution,Washington,USAavailable   in   the   following URL:http//books.google.dz/books?id=erovidiy1,EC

God smith (1969)"financial structure and development», new haven and London; ale university press1969,by the economic journal vol80,n^{0}318,june 1970p8

Garip turunc"developpement du secteur financier et croissance: le cas des pays émergents médétéranées"revue région et developpementn^{0}10,1999p90-129disponible   sur   le   site :http//region-developpement-univ-tlm.fr/en/pdf/r10/r10turunc25%e7.pdf

Judec.Eggoh(2009) »developpement financier,instabilité financiéreet croissance économique :un réexamen de la réalité »laboratoire d'economie d'orléan,document de recherche n^{0}17,2009 disponible sur le site suivant :http//www.univ-orléans.fr/geo/images/espace-perso/eggoh/wp-2474.pdf

ESCWA(economic and social commission for western Asia)2005,Economic trends and impact :banking sector lending bchavior and efficiency in selected ESCWA member contries,issuen^{0}3united nations, new yorkp22

WilliamH.green"econometricanalysis"5thedition prentice hall,new jersyUSA2003p654