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Financial liberalization and economic growth in Algeria: An empirical approach applied to the case of Algeria (1980-2013)

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Abstract:
This article is a study on the impact of the financial liberalization policy on economic growth in Algeria, made on the basis of an empirical analysis of annual time series to determine the effects of this policy on rates economic growth achieved during the period between 1980 and 2013. This led us to conclude that there is no causal relationship between financial liberalization and economic growth rates achieved in Algeria during this period. This explains the weakness of the banking liberalization and opening of the capital account in Algeria, despite the implementation of a series of financial reforms, banking and financial liberalization reforms in 1990 since the release of the law No. 90-10 on money and credit. These reforms have not yielded acceptable results in improving the role of the Algerian banking and financial institutions in the growth and operation of financial resources. The improved financial and monetary indicators and economic growth rates achieved in the last two decades by Algeria, mainly due to other factors such as the rising price of oil and the volume of foreign exchange reserves.

Keywords: **Algeria, economic growth, financial liberalization, law No. 90-10.**

الملخّص:

موضوع هذا المقال يتمثل في دراسة حول أثر تطبيق سياسة التحرير المالي على النمو الاقتصادي في الجزائر، وهي تقوم على أساس التحليل التجريبي لتقييم أثر تطبيق هذه السياسة على معدلات النمو الاقتصادي المحققة في الجزائر خلال الفترة الممتدة ما بين 1980 و2013. وقد توصلنا من خلال هذه الدراسة إلى أنه لا يوجد علاقة سببية بين سياسية التحرير المالي ومعدلات النمو الاقتصادي المحققة في الجزائر خلال هذه الفترة، وهذا ما يفسر ضعف عملية تحرير الخدمات المصرفية وحساب رأس المال بالرغم من تطبيق مجموعة من الإصلاحات المالية والمصرفية وإصلاحات التحرير المالي منذ صدور قانون النقد والقرض رقم 90-10 سنة 1990. هذه الإصلاحات لم تحقق نتائج مقبولة في تفعيل دور المنظومة المالية والمصرفية الجزائرية في الرفع من تعبئة الموارد المالية، أما التحسن الحاصل في المؤشرات المالية والنقدية ومعدلات النمو الاقتصادي المحققة في العقدين الأخيرين، فهو يعود بالأساس إلى عوامل أخري كارتفاع أسعار المحروقات والاحتياطات من العملة الصعبة.

<u>الكلمات المفتاحية:</u> الجزائر، النمو الاقتصادي، التحرير المالي، قانون النقد والقرض رقم 90-10.

<u>Introduction:</u>

Today one of the most debated topics by economists is that financial globalization, its concept, its origin and especially its responsibility to emerging issues. Financial liberalization policy proposed by R. McKinnon and E. Shaw in 1973 in their work, is one of these issues, it appears as a vector that promotes financial development in developing countries and stimulates economic growth.

The Algerian economy, like all economies of developing countries experienced a long period of financial repression and governmental authority over the funding of its economic programs developed as part of a planned economy. After the oil crisis of 1986 and the collapse of the exchange rate of the US dollar, Algeria experienced a severe financial crisis: The state revenues have decreased, the financing of the national economy is paralyzed causing a disturbance Investment projects and development plans developed by the Algerian state. Thus, Algeria has accelerated in the late 80s with the agreement of the International Monetary Fund application and the adoption of a process of financial liberalization by a policy that allows to reform and develop its banking system and financial. These reforms have been demonstrated through the enactment of law No. 90-10 on money and credit published April 14, 1990, amended and supplemented by Presidential Ordinance No. 03-11 published August 26, 2003 relative to the same law. The content of this law proved the manifest will of the Algerian financial and monetary authorities to liberalize their financial and banking sector, creating for the first time private banks. In order to appreciate the results of the financial liberalization policy obtained by Algeria after more than two decades of implementation, we will try to answer the following issues: ***Financial liberalization adopted by Algeria she favors its economic growth since the promulgation of law No. 90-10?***

1- Review of theoretical literature:

Financial liberalization was considered by McKinnon and Shaw (1973)[1] as the ideal solution to get out of financial repression regime and the simple and effective way to accelerate the pace of economic growth in developing countries. McKinnon and Shaw confirmed that the liberalization of the domestic banking sector and capital flows can generate positive economic growth rates where: liberalization of interest rates and banking services allows for additional financial resources to finance investment in different sectors of the economy; contribute to the promotion of competition between banks and thus reduces the cost of financial intermediation and also contribute to an optimal allocation of financial resources for directing bank lending to more productive investments. The abolition of obstacles to the movement of capital between countries helps to increase the volume of local financial resources thereby providing a quick and necessary funding to productive investments such as private sector investment. This will provide substantial support to achieve high rates of economic growth and positive.

Analysis of McKinnon and Shaw on financial liberalization policy has received the support and approval of many economists mostly economists from Stanford School, who have enriched and developed the analysis of McKinnon and Shaw by set of theoretical and empirical studies. These economists include:[2] Kapur (1976), Vogel and Buser (1976), Galbis (1977), Mathieson (1979), Roubini and Sala-i-Martin (1992), Maxwell and others. Other economists such as: King and Levine (1993), Levine (1997), Klein and Olivei (1999), Prasad, Rogoff, Wei and Kose (2003), Dhingra (2004) and others have considered that financial development is an essential condition for the success of any policy of financial liberalization: the implementation of the financial liberalization policy in developing countries was seen as an effective way to achieve high and positive rates of economic growth, thanks to development of financial and banking system, which can in turn stimulate savings and provide funding for various economic activities that will be reflected positively on rates of economic growth of these countries.

Other theories, as some empirical studies have shown that the determination of the relationship between financial liberalization and economic growth remains largely dependent on certain conditions. This is basically the macroeconomic stability [McKinnon (1993), Arteta, Eichengreen and Wyplosz (2001)][3] and soundness of the institutional framework [Chinn and Ito (2002), Klein (2005)][4].

2- <u>Empirical Evidence:</u>

The majority of empirical studies on the impact of financial liberalization on economic growth have tried to add to a basic growth model with multiple variables (Degree of school enrollment, investment, population growth...) and indicators of the degree of financial liberalization (Annex 1).
The study by Quinn (1997)[5] was one of the first to release a positive link between the free movement of capital flows and economic growth using the method of ordinary least square and its own proxy to measure the degree of imposed restrictions on capital account. The advantage of this indicator is that it takes into account the intensity of restrictions and not its existence or not. The empirical study of Quinn concluded a positive effect, strong and significant, the capital account liberalization on growth in real gross domestic product per head, and this for the entire sample of 58 countries over the period ranging from 1960 to 1989.

Olivei and Klein (1999)[6] sought to demonstrate the role of free movement of capital flows on financial development and the effect of the latter on economic growth. Therefore, they estimated by the ordinary least square method and the method of instrumental variables a growth model that takes account of the varying depth of the capital market as an indicator of the degree of financial development. Their sample included 92 developed industrialized and developing, when the indicator of financial openness, they used the share variable as external financial liberalization indicator (published in the Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER)) over the period 1986-1995. Their result was somewhat unexpected since they give off a positive effect of financial liberalization on economic growth in industrialized countries. According to these authors, financial development is considered as a significant determinant of economic growth and the benefits of deregulation of capital movements can occur when there is a set of institutions that may accompany changes brought about by the free movement of capital.

Bekaert, Harvey and Lundblad (2003)[7] were interested in the study of the effect of deregulation of capital to flow into the stock market on economic growth. They determined their measurements of the degree of opening of the stock market based on the official dates of the liberalization of the stock market. For a heterogeneous sample of 95 countries, including 28 developing countries studied over the 1980-1997 period and according to the method of moving averages they found that financial liberalization produced a 1% increase in the annual growth of GDP per capita and this for countries with high level of education. Klein (2005)[8] conducted a study by the method of instrumental variables in a sample of 71 countries for the period between 1976 and 1995. He used the real per capita income as an exogenous variable and used the variable share as an indicator of openness of the capital account. Similarly, it has incorporated a composite variable measuring institutional quality. It concluded that financial openness has a positive effect on economic growth, but that result is statistically significant only for the countries that tend to have the best institutional quality (25% of the study sample).

Ben Gamra (2009)[9] sought to identify the nature of the relationship between financial liberalization and economic growth. Its estimated regression panel data by the generalized method of moments on a sample of six emerging countries of East Asia and for the period

1980-2002. As for the indicators of financial liberalization, Ben Gamra used the dummy variable of Kaminsky and Schmukler (2003)[10] that represents data on the official dates of financial liberalization in emerging countries for each financial sector and for the period between 1973 and 2002. The author concluded that financial liberalization has a positive effect on economic growth in countries that have liberalized their financial sectors partially and gradually.

From empirical studies cited above and in chronological order, we can see that there is a strong intense debate about the effect of financial liberalization on economic growth: The authors are interested in the study of financial liberalization have made substantial and sometimes conflicting positive effects on economic growth. An overview of the main empirical studies have sought to establish a relationship between financial liberalization and economic growth, leads us to clearly observe the very heterogeneous nature of the results. This is mainly due to four factors:

- ✓ Periods studies are different.
- ✓ The sample of countries studied varies by Authors.
- ✓ The econometric method used and the estimation technique vary Authors.
- ✓ The measure used to quantify the degree of financial liberalization differs from one author to another and from one study to another.

In general, empirical work dealing with this subject can be classified into three categories:

- ✓ Those who support the hypothesis that financial liberalization promotes economic growth.
- ✓ Those who question this relationship.
- ✓ Those who confirm that the success of this relationship remains dependent on certain financial, macroeconomic and institutional.

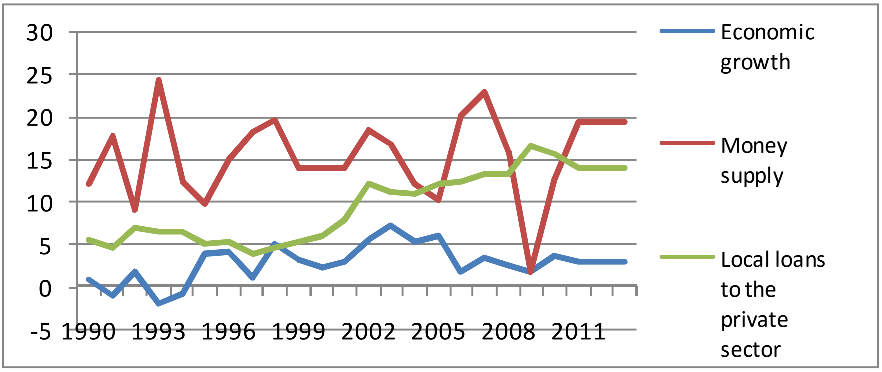
3- Context and evaluation of financial liberalization in Algeria:

In the late eighties, the Algerian financial and monetary authorities have given considerable attention to the reform and liberalization of their financial and banking sector in order to boost the role of national banks and reduce the restrictions imposed on them and deepen procedures change their economic system to a market economy. These reforms have been demonstrated through the enactment of law No. 90-10 on money and credit published April 14, 1990. The contents of this law proved the manifest will of the Algerian financial and monetary authorities to liberalize their financial sectors and banking, creating for the first time private banks.

The announcement of the bankruptcy of the bank El Khalifa and commercial and industrial Bank of Algeria (BCIA) in 2003 which was followed by heavy losses to the treasury, was a sufficient reason for the Algerian authorities to reconsider the banking legislation through the mechanisms that regulate the activity of banks and prevent recurrence in case of financial difficulties for banks, which necessitated the promulgation of presidential ordinance No. 03-11 published August 26, 2003 amending and supplementing law on the currency and credit[11].

Since the early ninety, Algeria has attempted an approach to financial liberalization proposed in the works of McKinnon and Shaw as a real policy to reform and develop its financial and banking system which earned him some improvements important recorded in the rate of economic growth and indicators of financial development. In this context, we will therefore try to highlight and discuss the most important improvements experienced by Algeria in their rate of economic growth and financial development indicators after the implementation of the financial liberalization policy.

Figure 1: The evolution of the economic growth, of the money supply and local loans to the private sector in Algeria (1990/2013) (1990/2013).



Source: African Development Bank Group – Open Data for Africa. http://opendataforafrica.org/

Among the objectives of financial liberalization reforms in Algeria, in order to achieve high and positive economic growth rates. From Figure 1, we note that Algeria has been able to achieve since 1990 positive and high rates of economic growth (except for the years 1991.1993 and 1994); this is due to improved income of the state after the rise in oil prices on international markets, especially in the period between 2001 and 2005 when the hydrocarbon sector deposits are estimated over 25% of deposits in total view recorded in Algerian banks.

Among the objectives of financial liberalization reforms in Algeria, the aim being to achieve a certain monetary stability by controlling the growth of money supply and make it closer to the GDP growth rate to serve the macroeconomic balances and reduce inflation. From Figure 1, we see that the annual growth of the money supply for the period between 1990 and 1999 has exceeded 15.12% on average. From 2002 the annual growth of the money supply has slightly improved due to the implementation of the stimulus package amounting to 7 milliard US dollars (about 520 milliard dinars) for three years. In 2009 the annual growth of money supply fell by 1.75% following the enactment of the supplementary finance law of 2009 where the Algerian authorities canceled the consumer loans, generating an increase and excess liquidity in Algerian banks (about 10%) which negatively affected banking competition.

Although the distribution of loans in Algeria has not achieved the desired objectives despite the cancellation policy of selective and supervision of credit and the loans are disbursed in full exclusively in the public sector and on short activities term, the private sector and medium and long-term investments are becoming even more marginalized central banks in the financing process, including private banks. From Figure 3, we note that the annual volume growth of local loans to the private sector in relation to GDP has increased slightly since 2002 to 14% in 2011, but it is better than in previous years, this is the reason that local directed lending to the private sector have always been lower than the share of loans to the public sector, this being mainly due to the decrease in the return on investment in Algeria and the high degree risk associated with these investments.

4- Empirical analysis:

4-1 Methodology and study data:

4-1-1 Description of data: Our empirical study is based on analysis of annual time series over the period 1980-2013. The study data are from the database of Statistical, Economic and Social Research and Training Centre for Islamic Countries (SESRIC)[12], the African Development Bank Group – Open Data for Africa[13] and World Bank[14].

4-1-2 Methodology of the study: To achieve know the long-term relationship between the variables and to conclude, the use of a methodology that takes place on three stages is essential. The first step is to estimate the degree of integration of the series through the test increased Dickey and Fuller (ADF) (1981) and the test of Phillips Perron (PP) (1988) and the stationary of the time series used. The second step is to test for the presence of co-integration relationship linking the variables in the long term if they are integrated of order one. This test is made by the method of Johansen (1991). The third step is to make the Granger causality (1969) test to perceive the direction of causality between the variables studied.

4-2 Specification the model and variables used:

Based on the theoretical and empirical literature, we specify the model of our study is:

$$GDP= f\ (KAO, DCPS, OPEN, M2) \ldots\ldots(1)$$

$$GDP = \alpha_0 + \alpha_1 LB + \alpha_2 OPEN + \alpha_3 M2 + \varepsilon_t \ldots\ldots(2)$$

Or:

- **GDP**: The dependent variable that represents economic growth as measured by total current gross domestic product (African Development Bank Group and The World Bank).

- **LB**: Financial liberalization is measured by:
  - ✓ KAO: Is an index that represents the level of external financial liberalization. It is produced by Chinn and Ito (2002)[15].
  - ✓ DCPS: Is an index that represents the level of financial liberalization interne. It represents the volume of loans to the private sector as a percentage of total current gross domestic products (African Development Bank Group and The World Bank).

- **OPEN**: Indicates trade openness, it is measured by the ratio (exports + imports / GDP). This variable represents the macroeconomic policy of the country (African Development Bank Group, The World Bank and SESRIC Database).

- **M2**: A variable measuring the level of development and evolution of the domestic financial system, it is calculated by the M2 money supply as a percentage of GDP (African Development Bank Group and The World Bank).

- **ε_t:** Is the error term.

4-2 Results and interpretations:

Using econometric methods listed above, this section presents the results of estimates of the impact of financial liberalization on economic growth in Algeria.

4-2-1 Analysis of stationary: Before testing the long-term relationship between the variables, it is necessary to check whether the studied series are stationary. Several tests can highlight the stationary of a series. We are implementing two tests: The test of stationary ADF and PP test. Unlike the ADF test which takes into account only the presence of autocorrelations in the series, the test PP considered in addition to the assumption of the presence of autocorrelations, a dimension heteroscedasticity series. Table 1 shows the results of ADF and PP tests for the studied variables.

Table 1: Stationary test results.

Variables	ADF test		PP test	
	Level	1st difference	Level	1st difference
GDP	1.418310 (0.9987)	-5.616014 (0.0001)***	1.961280 (0.9998)	-5.675100 (0.0000)***
KAO	-1.792843 (0.3771)	-5.567764 (0.0001)***	-1.784413 (0.3811)	-5.568385 (0.0001)***
PCBFI	-0.964656 (0.7541)	-4.038499 (0.0038)***	-1.189742 (0.6670)	-4.017113 (0.0040)***
OPEN	-1.368097 (0.5857)	-4.454020 (0.0013)***	-1.368097 (-1.368097)	-4.365606 (-4.365606)***
M2	-1.348993 (-1.348993)	-1.348993 (0.0024)***	-1.531102 (0.5057)	-4.169888 (0.0027)***

*, **, ***, means the stationary variables in significance levels 1%, 5% and 10%.
Source: Calculated by the authors using Eviews 6.1.

From the table 1, the results of the unit root tests show that all variables (GDP, KAO, DCPS, OPEN and M2) are stationary at the 1% significance level. So we can use the Johansen co-integration test to examine the long-run equilibrium relationship.

4-2-2 Analysis of the co-integration:

First step: Determination of the number of delay**.** The number of lags used is one that minimizes or maximizes the Criteria Akaike (AIC) and Schawarz (CIS). Table 2 reports the results obtained. The estimates are made using Eviews version 6.

Table 2: Number of delay.

Number of delay	AIC (Akaike Information Criteria)	SC (Schwarz Criteria)
0	74.270	74.501
1	66.601	67.989
2	66.928	69.472

Source: Calculated by the authors using Eviews 6.1.

The selected delay is 1 (minimum of AIC and SC), we will now proceed to test JOHANSEN.

Second step: Johansen co-integration test**.** After confirmation that the time series are stationary and integrated of the same order (same level), one can conclude that there is a co-integration relationship between the explanatory variables and the dependent variable of the model in the long term. To confirm this conclusion we use to test (Johansen Co-integration test) Table 3 presents the results of co-integration test JOHANSEN.

Table 3: Co-integration test results JOHANSEN.

Hypothesized NO. Of CE (s)	Eigenvalue	Trace statistic	0.05 Critical value	Pob**
R=O	0.592168	83.16046	69.81889	0.0030
R≤1	0.576302	55.35653	47.85613	0.0084
R≤2	0.366034	28.73576	29.79707	0.0659
R≤3	0.339280	14.60721	15.49471	0.0677
R≤4	0.055193	1.760012	3.841466	0.1846

- Trace test indicates 2 co-integration (s) at the 0.05 level.
- Notes rejection of the hypothesis at the 0.05 level.

Source: Calculated by the authors using Eviews 6.1.

The test JOHANSEN gave two probability values below the 5% significance threshold, so we reject the null hypotheses [H_0: R=O and R $\leq$ 1]. This means that there are two co-integrating relationships between the explanatory (independent) variables and the endogenous variable of the model in the long term.

4-2-3 Analysis of the causality:

The test of causality Granger (1969) shows how one variable can be explained from another variable. The variable Y is said to Granger caused by the variable X if X helps in the prediction of Y. For this, we must test the hypothesis that the variable X because the variable Y and vice versa by using the F-test statistics. A high level of F means that the hypothesis of no causality was rejected and therefore the presence of a causal effect is confirmed. The F test is associated with a probability that is used to measure the error to lerancein test interpretation. This probability should be smaller than 5%.

Table 4: Results of causality test.

Null Hypothesis	F statistics	Probability
KAO does not Granger Cause GDP	0.08798	0.7689
GDP does not Granger Cause KAO	0.12540	0.7258
DCPS does not Granger Cause GDP	0.66547	0.4211
GDP does not Granger Cause DCPS	0.20738	0.6521
DCPS does not Granger Cause KAO	0.09202	0.7638
KAO does not Granger Cause DCPS	17.1892	0.0003

Source: Calculated by the authors using Eviews 6.1.

According to the results of causality test, we find that there is no causal relationship between financial liberalization and economic growth in Algeria. These results explain the weakness of the financial sector and the Algerian banking system, despite the implementation of a series of financial and banking reforms and financial liberalization reforms since 1990. Thus, these reforms have not yielded acceptable results in improving the role of the Algerian banking and financial institutions in the growth and operation of financial resources. The improvement in the volume of money supply since 1990 due to the implementation of the economic recovery program, which has dedicated $ 7 billion (about 520 billion dinars Algerians) over three years when the state issued a large mass of money for the economy. Also, the improvement in the volume of money supply since 1990 due to the excessive increase in government spending resulting in their turn improving the incomes of the state after the rise in oil prices on international markets since 2001.

Also, these results express the degree of internal and external financial liberalization are not significant and negative; This explains the failure of the implementation of internal and external financial liberalization policy applied in Algeria since 1990, despite of the banking and financial sector liberalization reforms implemented since 1990 and the government's efforts to support especially the private sector in the field of distribution of investment loans for private companies. The policies followed by banks regarding the distribution of loans, the absence of a financial market and banks specialized in financing investments in Algeria have had a negative impact on the private sector in particular and the economy Algeria generally. Moreover, due to the weakness of the banking sector and the lack of a real financial market in Algeria, implementation of financial liberalization policies could generate banking crises and negative results for the Algerian economy.

Regarding the relationship between the internal and external financial liberalization, we note that the probability is below the materiality threshold of 5% which explains the presence of a unidirectional causal relationship that goes from the external financial openness to the liberalization of the banking sector.

Conclusion and recommendations:

During the past two decades, the world economy has undergone major economic and financial transformations imposed by the liberalization of financial systems. Its macroeconomic implications are crucial for the economic growth of the country that remains the ultimate goal of each country.

This work consists on the one hand, to theoretically analyze the nature of the relationship between the process of financial liberalization and economic growth and to empirically study the impact of the liberalization process and of financial development on economic growth in Algeria. Furthermore, it highlights the evolution of the Algerian banking and financial indicators and the effects of the application of financial liberalization on the Algerian economy since 1990.

The main conclusions reached by the work shows that financial liberalization does not cause the development and deepening of the Algerian banking and financial system. The results appear seeing that there is no causal relationship between financial liberalization and economic growth in Algeria. This explains the weakness of the banking liberalization and opening of the capital account in Algeria, despite the implementation of a series of financial and banking reforms and financial liberalization reforms since 1990.

The improved financial and monetary indicators and economic growth rates recorded in recent years, mainly due to other factors that have led to an increase in public spending such as: Improved state revenues after rising hydrocarbon prices on international markets since 2001 when the hydrocarbon sector deposits are estimated over 25% of total demand deposits recorded in Algerian banks; the increase in foreign exchange reserves in Algeria which exceeded the $ 150 billion in 2009, $ 176 billion in 2011 and $ 200 billion in 2013.

Despite the efforts of the Algerian State in the implementation process of financial liberalization policy in Algeria since 1990 and, since the enactment of the supplementary finance law of 2009 the Algerian authorities expressed their desire to keep the control over the banking sector thus avoiding a large opening in the context of financial liberalization: as an example may be mentioned the cancellation of consumer loans and the obligation of banks to finance foreign trade only by documentary credits irrevocable confirmed, generating increased and excess liquidity in Algerian banks (about 10%) which negatively affected banking competition. The implementation of the financial liberalization policy in Algeria has not achieved the desired objectives.

Finally, we can say that the economic reforms that have been taken in Algeria in the past two decades in general has attained macroeconomic stability and helped increase the growth, however, and in spite of these developments in the Algerian financial sector but they are always in need of modernization and regional and global economic integration.

<u>Annexes:</u> Review of empirical works

Studies	Study sample	Study period	Type of liberalization	Indicators of financial liberalization	Method and estimation techniques	Effect on economic growth and transmission channels	Conditions for success
Grilli and Milesi-Ferretti (1995)	61 Developing country	1966-1989	Capital account	Share	OLS	**No effect**	-
Quinn (1997)	58	1960-1989	Capital account	Quinn	Cross-section/OLS	**Positive effect**	-
Kraay (1998)	64 94 117	1985-1997	Capital account	Quinn Share Volume	Cross-section/OLS/IV	**No effect**	Institutional and policy development
Rodrick (1998)	100 Developed and developing countries	1975-1989	Capital account	Share	Cross-section/OLS	**No effect**	-
Klein and Olivei (1999)	92 Industrialized and developing countries	1986-1995	Capital account	Share	Cross-section/OLS	**Positive effect** In ndustrialized countries	Financial development
Edwards (2001)	62 Developed and developing countries	1980-1989	Capital account	Quinn	Cross-section/GLS	**Positive effect** In developed countries	Financial development
Arteta, Eichengreen and Wyplosz (2001)	61 Developed and developing countries	1973-1992	Capital account	Quinn	Cross-section/GLS/SLS/IV	**Positive effect**	Macroeconomic stability
Bekaert, Harvey and Lundblad (2003)	95 Including 28 emerging countries	1980-1997	Financial markets	BHL	Panel Moving average	**Positive effect** - Risk diversification - Efficiency of resource allocation - Stock market liberalization raises the per capita gross domestic product (GDP) by 1% annually	- Financial development - Institutional development - A high level of education
Dhingra (2004)	58 Developing country	1975-2000	- Capital account - Financial markets	BHL Dummy variable for Wyplosz (2002)	Dynamic model Panel GMM	**Positive effect** Stock market liberalization produces an increase of 3.8 % of GDP annually	-
Bonfiglioli and Mendicino (2004)	90	1975-1999	- Capital account - Financial markets	IMF BHL	Dynamic model Panel GMM	**Positive effect**	Financial development
Klein (2005)	71	1976-1995	Capital account	Share	Panel IV	**Positive effect** In 25% of the study sample	Institutional development
Ranciere, Tornell and Westermann (2006)	60	1980-2002	Financial markets	BHL	Probit	**Positive effect** In the long run	-
Ben Naceur, Ghazouani and Omran (2008)	11 Countries from MENA	1979-2005	Financial markets	BHL	Panel GMM	**No effect**	- The application of economic and financial reforms at the level of the local economy - Financial development
Ben Gamra (2009)	6 Countries emerging from East Asia	1980-2002	- Capital account - Financial markets - Financial banking	Dummy variable for Kaminsky and Schmukler (2003)	Panel GMM	**Positive effect** Countries that have liberalized their financial sectors partially and gradually	Partial and gradual financial liberalization
Ang (2011)	44 Which represent 22 OECD countries	1973-2005	- Capital account - Financial markets - Financial banking	variable for Abiad, Detragiache and Tressel (2010)	Cointegration	**No effect** Financial and banking crises	-

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