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# Level of Financial Integration between Maghreb Countries Economics

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**Abstract:** This paper seeks to study the level of financial integration between Algeria, Tunisia and Morocco, in the context of financial liberalization theory, by using panel data co-integration during the period between 1990-2014, the period when these countries initiated in the liberalization of financial systems locally, and in the framework of coordination with its surroundings Maghreb through a set of agreements and understandings, the results obtained proved that the integration level between the financial markets of the three countries are still unable to influence the growth levels.

**Key words:** Financial integration, financial markets, economic growth, Maghreb countries, co-integration, panel data.

## Introduction

Under present circumstances, there is an increasing importance of Maghreb countries to be economically and financially integrated as this will lead these countries to cope with the ever growing international economic and financial blocs. Many empirical and theoretical works affirmed that financial integration could help countries to increase their growth rate and ameliorate their life quality, this view find it's origins since late 19th century, especially by works of McKinnon and Shaw 1973; Kapur 1976; ¡Galbis 1977; Matheisan 1980; Roubini- sala Martin 1992; Alesina and al 1994; De Gregorio 1996; Edwards 2001; Agénor 2001; Prasad and al. 2003; Dhrifi 2009. During that period, the financial markets were in need of new global markets in order to invest and find more funding means. The relationship between financial integration and economic growth has always been of particular interest. Maghreb countries have undertaken a series of reforms in order to liberalize their financial systems. The aim was to achieve some sort of financial integration among the member states. One of the main benefits of this integration concerns the development of the financial sector that will allow domestic financial markets to become more sophisticated. In recognition of these potential benefits, Maghreb countries was founded the Arab Maghreb Union (AMU) on February 1989 when the member states signed the constituting treaty.

## Literature review:

The relationship between financial integration and economic growth has been widely study. Recent research highlights that countries differ with respect to their experience with capital flows and do not systematically gain from capital account liberalization. Many academic studies have tried to establish the relationship between financial integration and economic growth by incorporating a proxy for financial integration into the classical growth model. However, the results have been mixed since some studies find a positive relationship between financial integration and growth, while others prove otherwise. This section presents some of the works that support a positive relationship between financial integration and economic growth and some of the studies that contradict this assertion.

Some economists say that the consequences of integration on economic growth are positive as summarized in table below:

Table 1: Summary of some studies finding Positive Relationship between Financial Integration and Economic Growth:

| Studies | Countries | Period | Liberalization measures | Methods | Empirical results |
|---|---|---|---|---|---|
| Quinn (1997) | 65 (20 advanced countries, 45 emerging economies) | 1958-1989 | IMF; QUINN index | Cross-section regressions | Capital account liberalization has a positive effect on economic growth |
| Klein & Oliver (1998) | 93 | 1986-1995 | IMF; SHARE | Cross-section; OLS; 2SLS | Capital account liberalization affects positively and significantly economic growth. |
| Bailiu (2000) | 40 developing countries | 1975-1995 | IMF | Dynamic panel data; GMM; OLS | International capital flows promote economic growth. |
| Bekaert & al. (2005) | 95 and 75 countries | 1980-1997 | IMF; QUINN measure | OLS; GMM; cross-section; | Equity market liberalizations increase real economic growth. |
| Brezigar-Masten & al. (2007). | 31 European countries | 1996-2004 | IMF | GMM; crosscountry panel | Financial integration affects positively economic growth |
| Honig (2008) | 122 | 1970-2005 | IMF; QUINN (1997); Chinn and Ito (2007) | OLS; instrumental variables | Capital account liberalization has significant positive effect on economic growth. |
| Xiu Yang (2010) | 83 (44 developed countries and 39 emerging) | 1960-2008 | IMF measure | GMM | Financial integration promotes real economic growth. |
| Hassana, Sanchezb, Yu (2011) | 166 countries | 1980-2007 | Proxy measures | VAR Cross section | Positive relationship |

Others economist argue that financial integration does not promote economic gains, (or at best a mixed effect) that is, it does not have significant effects on economic growth as mentioned in below table.

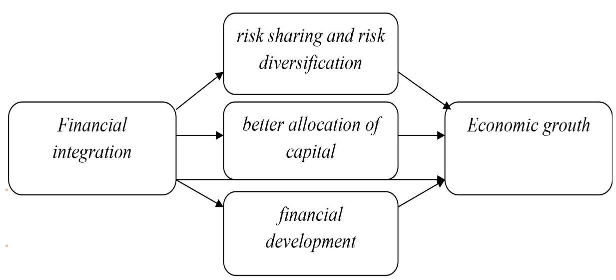
Table 2: Summary of some studies finding Negative/weak Relationship between Financial Integration and Economic Growth

| Economic Growth Study | No. of Countries | Years Covered | Effect on Growth |
|---|---|---|---|
| Edwards (2001) | 62 | 1980s | No effect for poor countries |
| O'Donnell (2001) | 94 | 1971–94 | No effect or, at best, mixed |
| Edison, Levine, Ricci, and Slok (2002) | 57 | 1980–2000 | No effect |
| Sy(2006) | 8 | 1996–2003 | Mixed |
| Schularick and Steger (2006) | 24 | 1880–1913 | No effect |
| Afzal (2007) | Pakistan | 1960–2006 | Co integrated |
| Osada and Saito (2010) | 83 | 1974–2007 | Mixed |
| Ahmed (2011) | 25 | 1976–2008 | No robust effect |
| Mougani (2012) | SSA | 1976–2009 | Mixed |
| Chen and Quang (2012) | 80 | 1984–2007 | Mixed |

So positive relationship is valid only under certain conditions and countries need to lift some strategies to stimulate the real economy.

**Financial Integration:**

Literature provides us various definitions of financial integration but most of this definitions assume that financial integration is the process through which the financial markets of two or more countries or regions become more connected to each other. This process can take many forms, including cross-border capital flows (for example, firms raising funds on capital markets cross-border), foreign participation in domestic markets (for example, a parent bank's ability to set up a subsidiary abroad), sharing of information and practices among financial institutions, or unification of market infrastructures. It can have a regional or global dimension, depending on whether a country's financial market is more closely connected to neighboring countries or to global financial centers/institutions. Financial integration is thus a multi-faceted concept with no universally-accepted definition. Although this divergence in definintions there is three widely accepted interrelated benefits of financial integration: more opportunities for risk sharing and risk diversification, better allocation of capital among investment opportunities and potential for higher growth. Some studies also consider financial development as a beneficial consequence of financial integration.




**Overview of Financial Systems in the Maghreb countries:**

Although the financial systems in the Maghreb region have developed substantially in the last decade, their financial sectors still need further modernization and regional and global integration. The main characteristics of the financial systems in the Maghreb region include the following:

(a) bank dominance and heavy public sector presence in most countries;

(b) limited financial sector openness;

(c) bank soundness exhibiting significant cross-country variations;

(d) public banks burdened with inefficiencies and a high level of nonperforming loans (NPLs);

(e) nascent institutional investor industry and generally underdeveloped microfinance;

(f) shortcomings in the legal, regulatory, and supervisory frameworks despite tangible progress;

(g) a largely cash-based payment systems that is being modernized.

**Empirical analysis**

**Data and methodology**

**Data Collection**

Our empirical study is based on time series data over the period 1990-2014, All variables are annual data that are provided from the data base of world bank and arab Monetary Fund.

**Methodology**

Our study tries to examine the possibility of a long-term relationship between financial integration and economic growth in the three Maghreb countries, we use panel co-integration to analyze and determine if there is any relationship among variables. This approach will be applied over two stages: we, first, test the stationarity of the variables in the model (Unit Roots tests) for the three countries. Then, we investigate whether the variables are co- integrated in long term by using the Pedroni co- integration approach.

**Model**

After examination of theoretical and empirical literature review, our model of study is as follows:

$$GROW_{i,t} = \alpha + \beta_1 FI_{i,t} + \beta_2\ SAV_{i,t} + \beta_3 INF_{i,t} + \beta_4 OPEN_{i,t} + \mu_i + \gamma_t + \varepsilon_{i,t}$$

where $GROW_{i,t}$ is the endogenous variable witch represents the growth in real GDP per capita for country i in year t. $FI_{i,t}$ represents degree of financial integration. It is an indicator measured by the stock of accumulated capital flows (the sum of assets and liabilities of foreign direct investment and portfolio flows) with regard to GDP. $SAV_{i,t}$ represents the volume of savings in each country; it's used to measure the inflows of capital. $INF_{i,t}$ represents the annual change in price consumption; it's used to measure if there is a coordination in macroeconomics policy of inflation between the three Maghreb countries $OPEN_{i,t}$ variable represents Trade Openness of the three Maghreb countries; it represents the ratio of foreign trade that is the sum of imports and exports on GDP.

**4. Empirical results**

Using the Pedroni co-integration approach outlined above, this section presents co- integration results about the relationship between financial integration and economic growth. We are going to make the unit root test-to-test stationarity and determine the order of integration of the different variables of each country.

Table 3: results of Unit root test in level

| variables | LLC | | IPS | |
|---|---|---|---|---|
| | t-statistic | p-value | t-statistic | p-value |
| GROW | 2.46108 | 0.9997 | 2.80772 | 0.9975 |
| FI | -1.11230 | 0.1330 | -1.17203 | 0.1206 |
| SAV | -1.36456 | 0.0862 | -1.63561 | 0.9490 |
| INF | -0.36981 | 0.3558 | -1.75203 | 0.0399 |
| OPEN | 0.96037 | 0.8316 | 0.84619 | 0.8013 |

From the Table 3, we observe that both LLC and IPS tests suggest that all variables are non-stationary in level (i.e., all series contain unit roots).

Table 4: results of Unit root test at 1st differences.

| Variables | LLC | | IPS | |
|---|---|---|---|---|
| | t-statistic | p-value | t-statistic | p-value |
| GROW | -2.07095 | 0.0192 | -2.03181 | 0.0211 |
| FI | -8.21563 | 0.0000 | -9.99476 | 0.0000 |
| SAV | -4.16262 | 0.0000 | -4.52501 | 0.0000 |
| INF | -7.06795 | 0.0000 | -7.73924 | 0.0000 |
| OPEN | -7.14465 | 0.0000 | -5.11767 | 0.0000 |

From the Table 4, variables become stationary at 1st differences in both LLC and IPS tests. Thus, Therefore, all variables are integrated of order 1 or I(1).

Based on the above unit rate test, we apply the Pedroni co-integration method to determine if there is a relationship among variables of model.

Table 5: Pedroni co-integration test results.

| test | Test-statistic | p-value |
|---|---|---|
| *(within- dimension)* | | |
| Panel V-statistic | -2.063693 | 0.9805 |
| Panel RHO –statistic | 2.124708 | 0.9832 |
| Panel PP-statistic | 1.117374 | 0.8681 |
| Panel ADF-statistic | 2.551756 | 0.9946 |
| *(between- dimension)* | | |
| Group RHO-statistic | 2.722818 | 0.9968 |
| Group PP-statistic | -0.596343 | 0.2755 |
| Group ADF-statistic | 0.865817 | 0.8067 |

We find that all seven pedroni tests: four tests of within- dimension and three tests of between- dimension, of three Maghreb countries (calculated p-value) exceeds 5%. Therefore, we conclude that the long-term relationship don't exist between financial integration and economic growth in three countries.

**Conclusion**

Although evidence suggests that financial integration help to increase economic growth, and Although maghreb countries share a number of characteristics that favor their financial integration (Short distances between main urban centers and long common borders, The common language which greatly reduces the transaction costs, …) results show that the level of financial integration of the three countries are still unable to influence the growth levels. This situation can explained by number of factors (Political and safety principles which have lowered the volume of trade, Maghreb financial systems are bank-dominated, The small size of Maghreb countries economics, …). To achieve the benefits of financial integration, Maghreb countries are demanded to more coordination taking into account the real economic cooperation and integration for long terms.

**References:**

Amor Tahari, et al, Financial Sector Reforms and Prospects for Financial Integration in Maghreb Countries. IMF working paper, WP/07/125.

Eric Osei-Assibey, International Financial Integration and Economic Growth: a case of portfolio equity flows to sub-saharian Africa. The African Economic Conference, Johannesburg 28th – 30th October, 2013.

Jinzhao Chen, Thérèse Quang. International Financial Integration and Economic Growth: New Evidence on Threshold Effects. PSE Working Papers n2012-30. 2012.

Kouki, S., & Rezgui, S. The impact of financial integration on economic growth. Case of Maghreb countries. Archives of Business Research, 5(3), 70-79. 2017.

Luc Eyraud, Diva Singh, and Bennett Sutton, Benefits of Global and Regional Financial Integration in Latin America. IMF working paper, WP/17/1.

GAJDOŠOVÁ, K. Theory of financial integration and achievements in the European Union. In Matoušek, R. – Stavárek, D. (eds.) Financial Integration in the European Union. (Routledge Studies in European Economy). London: Routledge, 2012.