Banking Intermediation and Economic Growth: Some Evidence from MENA Countries

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Abstract

In this paper, we'll try to study the impact of banking intermediation on the economic growth in ten countries in the MENA region over the period 1990–2009 using the method of GMM estimation for dynamic panels. Our results generally show a negative correlation between all variables of banking intermediation and economic growth. While, all variables of banking intermediation are positively correlated with each other.

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1 Introduction

The link between financial development and economic has been recognized in the literature since forty years. Gurley and Shaw (1955) and Goldsmith (1969) were the precursors. Explicitly or implicitly, these authors found the idea that efficient financial system activates the economic growth while orienting it. When considering the financial system in most developing countries, particularly the countries of the MENA region after independence, we realize that it is strongly repressed. This repression focused on the regulatory constraints does not facilitate the emergence of a dynamic financial activity capable of supporting economic activity.

In the countries of the MENA region, access to financial services (savings and credit) is lower than in other developing regions. In terms of savings, household deposits in

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commercial banks have slowly increased relative to GDP since the nineties. 90% of households in industrialized countries and a quarter of households in the MENA region have a saving account. In terms of credit, bank loans stagnated in most countries in the MENA region, which limits the working capital and investment. Banking intermediation's function appears to be a fundamental element of the process of economic growth and development (Bekolo-Ebe, 2002). Given the fact a viable financial sector, diversified and efficient is essential for strong and sustained economic growth.

In this context, the purpose of our research is to determine the impact of bank intermediation on economic growth in ten countries in the MENA region

The remainder of the paper is organized as follow: section 2 provides a review of the related literature. In section 3, we discuss the methodology and the econometric specification. The data and variables are reported in Section 4. Section 5 reports the empirical results of the estimation. The paper's concluding remarks are provided in Section 6.

2 Review of Literature

Financial intermediaries serve as the medium of the savings-investment process. One fundamental question is: will the development of financial intermediaries exert a positive effect on economic growth? A vast empirical literature on the issue.

King and Levine (1993) and Levine and Zervos (1998) try to measure the start-of-period degree of financial development, in order to evaluate how this initial state affects subsequent economic growth. Using cross-country regression analysis, King and Levine find that countries initially enjoying a larger credit sector experienced faster growth in the following thirty years, while Levine and Zervos show the joint, independent relevance for growth of both banks and capital markets.

In a study of the United States, Jayaratne and Strahan (1996) found that the branch deregulation boosted bank-lending quality and accelerated economic growth. They also found evidence that financial development stimulated economic growth. By examining individual states of the United States from 1900 to 1940, Dehejia and Lleras-Muney (2003) also confirmed that a well-functioning banking system boosts economic growth through improving capital allocation.

Benhabib and Spiegel (2000) show that financial development financial development affect positively the savings rate, stimulate investment, avoid premature liquidations of capital, reduce the cost of external finance, enhance the efficiency of capital allocation and ensure more productive technological choices, all factors that in turn lead to high economic growth.

Levine et al. (2000) further applied a more advanced econometric technique, the generalized moment's method (GMM) for dynamic panel data, on a panel of 71 countries over the period 1960–1995. This advanced technique yielded the same result as the traditional cross-sectional instrumental variable regressions. That is, the exogenous component of financial development is positively associated with economic growth.

Levine, Loayza, and Beck (2000), Beck, Levine, and Loayza (2000) employ a panel of 74 countries and averaged data (calculated over each of the seven five-year periods between 1961 and 1995). They evaluate whether the exogenous component of fnancial intermediary development influences economic growth and whether cross-country

differences in legal and accounting systems. They find out that financial intermediation is positively and robustly associated with economic growth.

Using provincial data over the period 1990–1999, Boyreau-Debray (2003) found that financial inter-mediation has a negative impact on local economic growth. She attributed the negative influence to the banking sector's support of loss-making state owned enterprises.

Brian McCaig, Thanasis Stengos (2005) examine the relationship between financial intermediary development and economic growth using different instruments. They find a strong positive effect when financial intermediation is measured as private domestic credit or liquid liabilities, supporting earlier findings based on only one instrument.

Philip C. Chang, Chunxin Jia and Zhicheng Wang (2010) examine bank fund reallocation and regional economic growth based on 1991–2005 provincial-level data of four state-owned commercial banks of China. They find no correlation at the regional level between fund reallocation and bank loans on the one hand and economic growth on the other. Bank deposits, however, are positively correlated with local economic growth. A possible explanation of such an asymmetric loan-growth vs. deposit-growth relationships is that state-owned banks are not efficient; they are in favor of state-owned enterprises and thus bank loans have not affected local economic growth. However, as local economies prosper, bank deposits increase accordingly. The nonexistence of a loan-growth relationship.

Jin Zhang, Lanfang Wang and Susheng Wang (2012) examine the relationship between financial intermediation and economic growth in China, using data from 286 Chinese cities over the period 2001–2006. Their results suggest that traditionally used indicators of financial development are generally positively associated with economic growth after controlling for many factors associated with growth.

3 Methodology

In this study we use the method of GMM estimation for dynamic panels developed by Holtz-Eakin, Newey and Rosen (1990), Arellano and Bond (1991) and Arellano and Bover (1995). Our model is written as follows:

$$y_{it} = \alpha y_{it-1} + \beta X_{it} + \eta_i + \mathcal{E}_{it}$$

Where i, t index the country and year, respectively, X is the matrix of the control variables, η represents the individual specific effects, $\mathcal{E}$ is an error term.

4 The Data and Variables

The data used in this study were extracted from the database of the World Bank (2012). Our panel consists of 10 Middle East and Nod Africa countries over the period 1990–2009. In our study, we have seven variables controls. Our first control variable is the BCT. This variable is calculated as the ratio between assets of deposit banks and assets of the central bank. The BCT measures the degree of allocation of funds by all banks in the economy. The Cpriv variable is calculated by dividing total loans to private sector by GDP. This ratio allows us to measure the degree of banking intermediation in the economy. The Rdep ratio is calculated as the ratio between total assets of commercial

banks and GDP. This ratio measures the size of commercial banks in the financial system. The intermediation ratio (LIQ) which measures the ability of banks to provide liquidity necessary to the economy is calculated by dividing total loans by total deposits. The variable confidence (conf = Total Deposits / M2) measures the degree of investor confidence in the banking system. finally, LCpriv) and (LGDP) are respectively the napierian logarithm of loans granted to companies relative to GDP and napierian logarithm of GDP per capita.

5 Empirical Results

Tables 1 and 2 provide descriptive statistics and correlations between variables of financial intermediation and economic growth. The results show that the maximum growth rate during the study period (1990-2009) is 3.615%. the minimum value is recorded in Egypt (2.79%). concerning the volume of credit granted the private sector (Lcpriv) displays a maximum of 1.98% in Israel, and the minimum was recorded in Algeria with a value of 0.61%. Moreover, Tunisia records the maximum degree of allocation of funds by all banks to the economy (BCT) 99.99%. While the average value was observed in Egypt 71.56%.The size of commercial banks in the financial system has a maximum value of 104.8% in Israel. Turkish investors show the maximum of confidence in their banking system 50.51%. The level of liquidity is highest in Egypt 1.5%.

Table 1: Descriptive Statistics

Variable	Moyenne	Médiane	Minimum	Maximum
LiQ	0.521103	0.500644	0.000000	1.50100
Conf	1.42994	1.23274	0.000000	5.51818
Rdep	42.8288	41.3320	0.000000	104.807
BCT	71.5605	89.3588	0.000000	99.9957
Lpib	3.61599	3.48494	2.79643	4.76546
Lcpriv	1.17490	1.36303	0.000000	1.98444
Variable	Écart type	C.V.	Asymétrie	Ex. aplatissement
LiQ	0.415558	0.797458	0.205102	-1.02367
Conf	1.35264	0.945944	0.577031	-0.505950
Rdep	27.6011	0.644451	0.0822567	-0.631812
BCT	35.7959	0.500218	-1.22978	-0.0301177
Lpib	0.488018	0.134961	0.295945	-1.14420
Lcpriv	0.622091	0.529484	-0.906274	-0.437151

Regarding the study of the correlation, we note that there is a negative correlation at the 1% confidence level between all variables of bank intermediation and economic growth. While all the variables of banking intermediation are positively correlated. The strong positive correlation is observed between the variable volumes of loans accorded to the private sector (Lcpriv) and the size of commercial banks in the financial system (RtoP). Similarly, we find that there is a strong correlation between (Lcpriv) and liquidity (LIQ). The correlation coefficients are significant at the direction of the relationship between variables. Moreover, the negative sign of the coefficients implies the existence of an

inverse relationship between the variables. Thus, when the variables of banking intermediation increase, economic growth decreases. This opposite relation implies that the Arab banking systems in their globality are not able to finance their economies to boost their economic growth.

Table 2: Correlations between variables

LiQ	Conf	Rdep	BCT	Lpib	Lcpriv	
1.0000	0.0846	0.6914	0.3812	-0.5581	0.5664	LiQ
	1.0000	0.1902	0.5908	-0.2274	0.3763	Conf
		1.0000	0.3388	-0.1391	0.8964	Rdep
			1.0000	-0.2268	0.3205	BCT
				1.0000	-0.2045	Lpib
					1.0000	Lcpriv

Coeff. correlation, using observations 1:01 - 10:20
5% critical value (bilateral) = 0.1388 for n = 200

The following table summarizes the average values of different variables to be used in the model that analyzes the relationship between financial intermediation and economic growth.

Table 3: banking intermediation and economic growth in dynamic panel

	Coefficient	Erreur Std	z	p. critique	
Lpib(-1)	0.709842	0.02476	28.6689	<0.00001	***
const	0.00932669	0.00122069	7.6405	<0.00001	***
LiQ	0.0176773	0.0589329	0.3000	0.76421	
Conf	0.00685293	0.00832625	0.8231	0.41048	
Rdep	-0.00286347	0.000915339	-3.1283	0.00176	***
BCT	0.000591078	0.000270075	2.1886	0.02863	**
Lcpriv	0.068514	0.032269	2.1232	0.03374	**

Number of instruments = 141
Error Test AR (1): z = -1.77824 [0.0754]
Error Test AR (2): z = -1.57537 [0.1152]
Test of over-identification of Sargan Q2 (134) = 180 692 [0.0045]
Wald Test (joint): Q2 (6) = 2737.14 [0.0000]

As seen in Table 3, Rdep, BCT and Lcpriv are statistically significant at the 1% and 5%. Indeed, we can see that the size of the commercial banks in the financial system has a negative effect on economic growth. This negative effect can be explained by the fact that the Arab banking systems consist in their majority of deposit banks. The credit allocations by banks to the economy and the volume of loans accorded to the private sector have a positive effect on economic growth. This shows that in these developing economies, companies are financed by the banking system. In addition, the liquidity and investor confidence in the banking system are not significant and therefore do not affect economic growth. Indeed, the underdevelopment of financial markets in the Arab countries which constitute a competitor to the banking system in financing the economy may explain the non-significance of the variable investor confidence.

6 Conclusion

The main objective of this paper is to examine the influence of intermediation on the economic growth in 10 countries in the MENA region over the period 1990–2009 using a method of GMM estimation. The results indicate that when the variables of banking intermediation increase, economic growth decreases.

This paper also investigates the correlation among all variables of banking intermediation. It indicates generally a positive correlation at 5% between them.

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