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CAN BANKS LEAD THE ECONOMIC RECOVERY OF THE ARAB SPRING?

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Abstract

We analyze the role of banks in Bahrain, Egypt, Libya, Tunisia, and Yemen, pre-and post-revolution, and find that the volume of credit they offered to the private sector was neutral to real economic growth. Supported by a recent IMF study that ranks banking regulation and supervision "poor" or "below- average" in four out of the five countries under study, we attribute the limited effectiveness of their banks to government intervention in credit allocation and pricing. Our results cast doubt on the banks' ability to lead an economic recovery, and suggest that monetary policy alone will not be successful within the first three years.

JEL Classification: E5; F3; F5; G01; G21; G28; O11 and O42.

Keywords: Arab Spring, Middle East and North Africa, Banks, and Credit.

ملخص

نقوم بتحليل دور البنوك في البحرين، مصر، ليبيا، تونس، واليمن، قبل وبعد الثورة، ونجد أن حجم القروض التي تقدمها للقطاع الخاص محايد للنمو الاقتصادي الحقيقي. وبدعم من دراسة حديثة بواسطة صندوق النقد الدولي عن التنظيم والرقابة المصرفية "للفقراء" أو "تحت المتوسط " في أربع من الدول الخمس قيد الدراسة، نعزو فعالية محدودة من البنوك لتدخل الحكومة في تخصيص الائتمان والتسعير. نتائجنا تلقي الشك على قدرة البنوك على قيادة الانتعاش الاقتصادي، وتشير إلى أن السياسة النقدية وحدها لن تكون ناجحة في غضون السنوات الثلاث الأولى.

1. Introduction and Objective

After more than three years of economic and financial instability, any turnaround in the countries of the Arab Spring is expected to require leadership from a strong and healthy banking sector recognized to be the main source of credit to spur economic growth. This is documented in several studies about the pivotal role that banks play in an environment marked with uncertainty (King and Levine (1993); Levine (1997); Rajan and Zingales (2003)). This is also the principal rationale why international agencies and development officials strengthen the banking sector in order to bolster the economy. However, recent evidence about the economic relation between credit and growth fails to identify a clear link between these variables in certain countries. This relation is now challenged in countries that have experienced a financial crisis, and especially when bank credit is dictated by political considerations and social pressures that distort the local credit markets and disrupt the regular channels of monetary policy. At the moment, bank credit to the private sector is stagnating in Yemen and especially Egypt, where it is down 8% from its levels prior to the revolution but it is on the rise in Tunisia and Bahrain (11% and 2% respectively). Yet despite the contrast in credit expansion across those countries, the GDP growth rate remains decidedly low and has been unable to regain its pre-revolution levels.

Against this backdrop, we analyze the role of commercial banks before, during and in the aftermath of the Arab Spring in the countries that experienced an uprising since 2010/2011, namely Bahrain, Tunisia, Egypt, Libya and Yemen. We ask a fundamental question: should banks be the primary sector to lead the economic recovery? And if so, how soon can the results materialize?

2. Literature Review

In the aftermath of a financial crisis, the collapse of output has been investigated by Calvo et al. (2006) who place the blame on the existence of serious malfunctioning in Emerging Market economies that depend on excessive short-term lending. These economies become vulnerable to shocks when foreign inflows dry up. The authors find the recovery was faster than anticipated, and took place without credit in the economies that have suffered a significant decline in output. They argue that a failure of the domestic banking system to spur lending during the recovery phase is not important for output growth to return to its pre-crisis levels. These "credit-less" recoveries, as they are known in the literature, are possible. Along those lines, Abiad et al., (2011) show that 20% of all recoveries occur in the absence of credit growth but that the average economic growth during these episodes is about a third lower than during "normal" recoveries. More recently, Gambocarta et al., (2014) find that bank credit fosters economic growth only up to a certain point, which clearly varies with each country. Beyond that limit, bank lending is no longer effective and becomes neutral to real growth.

Following a crisis, the notion that bank credit is indispensable to an economic recovery is rooted in the tenets of monetary policy. Banks represent the arm through which a Central Bank can expand credit using a variety of monetary policy tools ranging from open market operations, setting the discount rate, or the reserve requirement ratio. In an economic downturn, banks which are otherwise healthy, are able to extend credit more than other financial intermediaries (Bolton et al. (2013)). Because they often have an established, and sometimes a long-term, relationship with their clients, banks are able to offer credit even during a downturn when other lenders back out.

Closely related to the topic of our paper, a number of academic studies have analyzed the relation between financial development and growth. The focus of these studies is on the level of financial development (scope, breadth, and reach of financial markets and institutions) as opposed to the volume of bank credit. By and large, the literature includes divergent views on the issue of causality, where one side of the debate contends that financial development can be

a causal factor for economic growth. Studies in this camp include King and Levine (1993), who investigated the experience of 77 developed and developing countries and found higher levels of financial development are significantly and robustly correlated with faster current and future rates of economic growth, physical capital accumulation and economic efficiency improvements. Along those lines, Demirguc-Kunt & Levine (2008) found strong evidence that financial development is important for growth. The authors proscribe that policymakers prioritize financial sector policies and devote attention to financial development in order to promote growth. These findings are also confirmed in Bayoumi & Melander (2008), who find that a 2½% reduction in overall credit causes a reduction in the level of GDP by around 1½% in advanced economies. Other supporting studies include Christopoulos & Tsionas (2004), and Habibullah and Eng (2006) who studied 13 Asian developing countries and confirmed that financial development, in general, promotes growth.

In the context of MENA countries, several studies have investigated the relation between economic growth and credit. For example, Makdisi, Fattah, and Limam (2007) found that over the period 1960-1998, the total factor productivity in the MENA region was not an important source of growth in comparison with other regions. Ben Naceur and Ghazouani (2007) relate banks performance and economic growth to the stock markets in the region. More recent evidence on the role of banks in the MENA region is explored in Gray, Karam and Turk-Ariss (2014) who investigate whether low loan-to-deposit ratios and high levels of reserve balances at the central bank are driven by policy decisions that banks are forced to follow or caused by a weak demand for investment.

Given the large debates discussed in these studies, our analysis is focused more specifically on the role of banks after a crisis. We do not take side in the debate about the direction of causality between financial development and economic growth[1]. We stay away from investigating the breadth, scope, reach, or level of competition in financial markets and how these factors relate to economic growth. Our objective is directed to the volume of bank credit, its effectiveness, and whether it has the historical track record to lead an economic recovery. Our goal is not to offer suggestions on how to fix or reform the banking sector. We ask a basic question: how significant is the bank credit function to economic growth before and after the uprising? In line with the existing research in the field, we examine the contribution of banks credit to economic growth using various models.

3. Methodology

To evaluate the role of bank credit in economic growth, we propose a panel analysis of the 5 countries which experienced an uprising. We investigate this relation over a long period of time (24 years: 1995-2013) to capture the central tendencies that exists between the key variables.

We begin with a variation of the standard model originally introduced by Beck and Levine (2004), and later modified in Takáts and Upper (2013) in the study of 33 developed and developing countries. The model in Takats and Upper (2013) is across countries but time invariant. In contrast, our basic model is closer to the original formulation of Beck and Levine (2004) and has the structure of a panel data of the form:

$$Y_{it} = \alpha_i + \beta CR_{it} + \theta' X_{it} + \epsilon_{it} \quad (1)$$

Where $\boldsymbol{Y}$ is the real per capita GDP growth and $\boldsymbol{\varepsilon}$ is an error term. The main independent variable is the ratio of bank credit to GDP, i and t represent country and time period, respectively. To the extent that the effect of bank credit on growth may be non-linear, we use the logarithm of the ratio of the bank credit to GDP (represented by the variable $\boldsymbol{CR}$). The

[1] For a review of these issues in the context of countries in the MENA region, see Soltani and Maktouf (2013); Manizheh and Hook (2013). For the case of Egypt, see Kamal (2013).

model includes three control variables that have been identified in the literature to affect the relation between bank credit and economic growth. The choice for these variables has been widely motivated originally by Beck and Levine (2004 and more recently in Bijsterbosch and Dahlhaus (2011), Bech et al. (2012), and Takats and Upper (2013). The control variables are represented by the vector $\boldsymbol{X}$, and $\boldsymbol{\theta}$ is the corresponding vector of parameters. The role of the control variables is to address the classical problem of variable omission bias. The three control variables are:

- National Debt (as a % of GDP)
- Real Investment (Gross Capital Formation) as a % of GDP
- Country i's Real Exchange Rate

Model (1) is estimated using a fixed-effect estimation[2] approach using a robust estimator suggested by Arellano (2003).

Because the effect of the bank credit on growth may not be contemporaneous, we expand model (1) by allowing three annual lags. The lag effect is consistent with the findings of Takáts and Upper (2013) who argue that the change in bank credit consistently fails to correlate with growth during the first two years of the recovery.

$$Y_{it} = \alpha_i + \sum_{s=0}^{3} \beta_s CR_{i,t-s} + \theta' X_{it} + \epsilon_{it} \qquad (2)$$

Model (2) allows us to determine the lag effect of the correlation between bank credit and growth. We are careful to describe this relation as 'just a correlation' because the direction of causality has not been determined and this subject represents a contentious question widely debated in the literature.

4. Results and Discussion

The descriptive statistics of the sample are provided in Table 1. Within the five countries under investigation, we observe a wide range of differences in their national statistics. For example, in terms of the national debt, Libya's government began to record a surplus (represented as a negative number) since 2003 when International sanctions were lifted. In 2011, World Bank statistics reported that Libya's debt surplus reached 162% of its GDP[3]. In contrast to Libya, Bahrain has continuously run a debt surplus since 1995. Its surplus ended in 2011 when the uprising began, and Bahrain's economy began to register a deficit.

Table 2 shows the impact of the uprising on the countries in question and the Arab World in general. Some of the noteworthy observations are:

- In terms of GDP, Yemen[4] experienced the slowest growth (-15% in 2011), and the year-on-year change in its annual growth was 18.4% between 2010 / 2011.
- Among the 5 countries that experienced uprisings, Bahrain's economy suffered the least, -2.2% (from Table 2). This figure is identical to the impact on the region as a whole.
- Ignoring any opportunity cost or any growth the Arab World could have achieved in the absence of the uprisings, the 2.2% decline on the region's GDP translates into a loss of $55 billion (or $155 on a per capita basis) in 2011.

Table 3 reports the credit extended by banks as a proportion of each country's GDP. Prior to 2011, Bahrain and Libya were in the lead with bank credit proportions exceeding 60% of GDP.

[2] Given the limited number of observations, we have an insufficient number of degrees of freedom to estimate a random effect model.

[3] In 2003, the Libyan disarmament issue was peacefully resolved when Mr. Gaddafi, the leader at the time, agreed to eliminate his country's weapons of mass destruction program and US and International sanctions were lifted. As a result, the growth rate in Libya's real GDP registered an astounding 13% that year

[4] The World Bank statistics show that Libya's real GDP shrunk by 62% in 2011 and rebounded by 105% in 2012. We consider these changes as outliers and eliminate these extremes from our analysis.

The average for the Arab World was 43%. Following the uprisings, the proportion of bank credit fell throughout the region to 38% of GDP, a difference of 5% or a decline of $142 billion. By 2011, Tunisia's banks began to recover, loaning out 5.4 billion more after the uprising than they did prior to the revolution. However, for many reasons, including the overthrow of Mursi's government, the Egyptian banking sector is still down 8% ($21 billion) from its level during the Mubarak era. It is important to emphasize that these figures are only looking at total bank credit; they say nothing about how credit is allocated, nor do they suggest that the banking transparency has improved since the uprising. Any change in governance of the banking sector will require more time and data. The only current reference point we found is an IMF study by Creane et al. (2004), which introduces a financial development index for the MENA region and which we summarize in Table 4.

The results of Models (1) and (2) are provided in Table 5. Starting with the regression of Model (1), we notice that the control variables have the proper signs. Specifically, an increase in national debt, as a percent of GDP, reduces growth due to the crowding-out effect on investment demand. More public debt increases its cost and discourages private investment. In addition, the sign of the Real Investment coefficient is positive because higher investment leads to more economic growth, but this variable is not statistically significant in Model (1). Meanwhile, the negative coefficient of the real exchange rate suggests that a weaker currency hinders economic growth, a result consistent with the growth literature on emerging markets. The key independent variable, the domestic credit offered by banks to the private sector as a percent of GDP (CR), has a negative sign but is not statistically significant.

The results of Model (2) are stronger than those of Model (1). Specifically, the coefficient of the Investment demand is strongly statistically significant and maintains its positive sign correctly. The other control variables also maintain their signs and are statistically significant. More importantly, however, the key variable (CR), and all its three annual lags are statistically insignificant. It is interesting to note that the sign of the contemporaneous CR and its lags are not all identical. The coefficients of the current variable and its 3rd year lag are negative, while those of the 1st and 2nd year lags are positive. These results, while statistically insignificant, are consistent with the findings of Favara (2003), who show that the direct impact of bank credit on economic growth is ambiguous.

Our finding of no correlation between bank credit and growth is not rare, and is actually confirmed by the findings of Bijsterbosch and Dahlhaus (2011), Gambocarta et al. (2014), and earlier by Favara (2003), in a large panel study of several countries, including some Middle Eastern countries between 1960 and 1998. In fact, Favara's results showed that for some countries, the relation is puzzlingly negative. Similarly, Boyreau-Debray (2003) have also identified a negative correlation between growth and bank credit in China as banks were lending out to unprofitable organizations of the Chinese State Enterprise. Our results here lend further support to the notion that bank credit does not have a first order effect on economic growth. When the dynamic specification and slope heterogeneity across countries are taken into account, the effect is inconclusive and ambiguous. The consensus is that each region or country is a special case and broad generalizations may not be possible. What is clear is that the classic notion that bank lending spurs economic growth is not empirically well-supported in the countries which have experienced uprisings.

Why is bank credit not a strong determinant for economic growth in the countries of the Arab Spring? In our opinion, this is not a difficult question to answer. With the exception of Bahrain, many of the banking institutions in the 5 countries which experienced uprisings suffer from opaqueness and cronyism and were ranked "below-average" or "poor" using a Financial Development Index (for selected MENA countries) published by the IMF[5]. For example, on a

[5] This is part of large study by the IMF detailed in Creane et al. (2004).

scale of 1 through 10, only Bahrain exceeded the average of 5.5. Tunisia, Egypt, Yemen and Libya banking sectors' regulation and supervision were ranked 5.3, 5.3, 3.3, and 2.0 respectively (see Table 4). In such institutional landscape, it is likely that banks do not have the freedom to lend using traditional underwriting tools and credit analysis. Instead, they may be directed, often by the power establishment, to loan to specific projects which may not be profitable, nor lead to economic growth. Many of the banks in these countries are government sponsored institutions that implicitly cater to specific interest groups and may not necessarily maximize the public welfare. Their bad loans are also commonly written off and funds are misdirected. As Creane et al. (2004) note, government controls on lending rates and the allocation of bank credit repress financial systems. Forcing banks to subsidize credit to certain sectors, or restricting the quantity of credit, distorts the credit market and lowers efficiency and the effectiveness of the transmission mechanism. Such controls limit banks' abilities to adequately fund promising and productive business opportunities.

Our results should not be misconstrued to suggest that the banking sector is generally ineffective or that credit expansion is useless. This would be a false conclusion. Banks must remain healthy to perform their utility function by offering deposits, transferring funds, and providing basic credit functions. However, our results cast doubt only on their ability to lead (but not follow) an economic recovery in the countries of the Arab Spring.

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Table 1: Descriptive Statistics (Countries Included: Libya, Egypt, Bahrain, Tunisia, Yemen, and the Arab World Average, 1995 - 2013)

Variable	MAX	MIN	STDEV	MEAN	MEDIAN	# of Obs.
Claims on central government, etc. (% GDP)	58.19	-162.59	31.18	6.12	6.37	144
Domestic credit to private sector by banks (% of GDP)	72.54	3.01	19.40	33.88	34.99	144
GDP growth (annual %)	13.00	-15.09	3.14	4.35	4.34	131
Gross fixed capital formation (% of GDP)	34.52	9.77	4.72	20.00	19.94	129
Official exchange rate (LCU per US$, period average)	219.59	0.28	65.08	29.25	1.30	120

Source: The World Bank.

Table 2: Drop in the GDP Growth Rate in 2011

Drop in the GDP Growth Rate in 2011		Real GDP Growth Rate Before & After Uprisings (3 year average)		
Country	%	2008-2010	2011-2013	Difference
Bahrain	-2.2	4.4	3.7	-0.7
Egypt	-3.4	5.7	2.0	-3.6
Libya	-67.1	3.6	11.0	7.4
Tunisia	-3.8	4.0	2.2	-1.8
Yemen	-18.4	3.8	-2.8	-6.6
All Arab Countries	-2.2	4.4	4.0	-0.5

Source: The World Bank.

Table 3: Domestic Credit to Private Sector by Banks (% of GDP)

Country	2008-2010	2011-2013	Difference
Bahrain	67.8	69.3	+1.6
Egypt	37.3	29.4	-8.0
Libya	9.0	14.6	+5.6
Tunisia	60.7	72.1	+11.4
Yemen	6.6	5.6	-1.0
All Arab Countries	43.2	38.2	-5.0

Source: The World Bank.

Table 4

(Based on Qualitative and Quantitative Data, Scale: 0-10) 2/

	Financial Development Index	Banking Sector	Nonbank Financial Sector	Regulation and Supervision	Monetary Sector and Policy	Financial Openness	Institutional Environment
Bahrain	7.7	7.3	5.0	9.3	7.8	8.0	8.9
Lebanon	7.0	8.7	3.3	7.7	8.3	7.0	5.2
Jordan	6.9	7.1	6.3	8.7	6.5	8.0	5.4
Kuwait	6.8	7.4	5.0	8.0	6.6	8.0	5.9
United Arab Emirates	6.6	7.9	5.0	6.7	5.8	8.0	5.9
Saudi Arabia	6.4	7.8	3.3	8.0	6.4	8.0	4.2
Pakistan	6.0	5.8	6.3	7.7	7.4	4.0	3.9
Oman	5.9	6.1	5.0	8.3	4.2	8.0	4.8
Qatar	5.7	6.8	0.7	6.7	5.7	8.0	6.3
Tunisia	5.6	7.7	4.7	5.3	4.5	5.0	5.0
Morocco	5.5	5.6	4.7	7.3	6.8	4.0	3.8
Egypt	5.4	6.0	6.3	5.3	5.6	6.0	3.2
Sudan	4.7	5.7	0.7	3.7	6.2	7.0	4.5
Djibouti	4.1	3.8	1.3	5.0	6.0	7.0	2.0
Yemen, Republic of	3.9	4.1	0.7	3.3	5.0	9.0	2.2
Mauritania	3.5	3.8	0.7	3.0	3.9	5.0	4.5
Algeria	3.2	2.5	3.0	3.5	4.4	4.0	2.3
Iran, Islamic Rep.	2.5	1.9	3.3	4.7	0.5	4.0	2.4
Syrian Arab Republic	1.1	1.9	0.7	0.0	0.9	0.0	2.4
Libya	1.0	1.3	0.7	2.0	0.5	0.0	1.0
Average	5.0	5.5	3.3	5.7	5.1	5.9	4.2

Source: Authors' calculations.

1/ Original "subjective" weighted index.
2/ Scale: Very low=below 2.5, Low=2.5-5.0, Medium=5.0-6.0, High=6.0-7.5, Very high=above 7.5.

Source: Creane et al. (2004). Republished by permission from the authors.

Table 5: Panel Data Analysis

Dependent Variable: **Annual Growth Rate in Real GDP (Y_{it})**
5 countries: Bahrain, Egypt, Libya, Tunisia, and Yemen
T = 1995 – 2013

	Coeff	Robust t-ratio	Significance
Model 1			
Fixed-effects, 95 obs, R-square 17.4%			
Const	5.20	1.08	
CR (Log Domestic Credit by Banks % of GDP)	−0.4256	−0.3329	
National Debt (% of GDP)	−0.0597	−2.878	***
Real Investment (% of GDP)	0.09	0.97	
Real Exchange Rate (local currency per US$)	−0.02715	−3.362	***
Model 2			
Fixed Effects, 84 obs, R-square 20.3%			
Const	3.72	0.90	
CR (Log Domestic Credit by Banks % of GDP)	−4.95	−1.456	
CR_{t-1} (Log Domestic Credit by Banks % of GDP) - 1y lag	2.65	1.49	
CR_{t-2} (Log Domestic Credit by Banks % of GDP) - 2y lag	3.85	1.06	
CR_{t-3} (Log Domestic Credit by Banks % of GDP) - 3y lag	−2.00	−0.8124	
National Debt (% of GDP)	−0.0531	−2.068	**
Real Investment (% of GDP)	0.15	2.04	**
Real Exchange Rate (local currency per US$)	−0.0184	−1.882	*

Significant at 10% (*), 5% (**), and 1% (***)