BANKING SECTOR DEVELOPMENT AND ECONOMIC GROWTH IN PALESTINE; 1995-2014

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-Abstract-

This study uses both OLS regression estimation and Granger Causality test to investigate the relationship between the banking sector development and economic growth in Palestine over the period 1995-2014. OLS results show a significant impact of banking size with a negative sign, insignificant impact of credit lending with a marginal one for lag credit and insignificant impact of efficiency on economic growth, respectively. Granger Causality test results show one way causality running from banking size to (GDP) economic growth and from banking efficiency to (GDP) per capita economic growth one. Overall results reveals a weak nexus between banking sector development and economic growth. In specific, it recommends more improving in banking lending policy to be effective in promoting economic growth.

Key words: Banking sector development; economic growth; OLS and Causality; Palestine
JEL. Classification: B23, E44, O40

1. INTRODUCTION

The causality relationship between economic growth and financial development is still a debatable issue. This centered on whether the financial development leads economic growth or vice versa. Most empirical studies (Levine, 1997, 2005;

Wachtel, 2001; Fink, Haiss and Vuksic, 2005) concluded that development of the financial sector promote economic growth.

As in most developing countries, the Palestinian banking sector dominates the financial sector. Banks are generally in sound financial condition and products are well developed as is the regulatory infrastructure. However, the sector remain vulnerable due to its dependence on the Jordanian banking system and from operational point of view on the Israeli one.

Along the periods of time the Palestinian banking sector has achieved steady growth in terms of assets size deposits and lending to private sector. Notwithstanding, the sector still plays a limited role in financing the Palestinian economy due to the cautiousness view of the banks which reflecting several structural problems such as the lack of suitable collateral and the uncertainty of the outcome in debt (World Bank, 2012).

The main objective of this paper is to investigate the relationship between development of banking sector and economic growth in Palestine. We confine research here in the banking sector due to its dominance in the financial sector.

This paper is organized as follows. Section 2 presents an overview of selected literature. Methodology, data and descriptive statistics of the employed variables are explained in section 3. Section 4 includes empirical results. Finally, section 5 gives the main findings of the paper.

2. LITERATURE REVIEW

Mainly, two competing hypotheses examined the potential direction of causality between financial sector development and economic growth, the first one sees financial sector development promotes economic growth and the other one supports the hypothesis that economic growth creates demand for financial sector services, and hence induces this sector.

Earlier studies in this area which support financial sector economic growth causality direction include Goldsmith (1969), Mckinnon (1973), King and Leving (1993a,b), Neusser and Kugler (1998) and Levine et al. (2000).

For a number of decades a growing literature at both country level and cross country comparisons examined the link between financial sector development and economic growth. The majority of those studies suggest that there is a significant positive nexus between economic growth and financial sector development.

King and Levine (1993a) studied a sample of 80 countries and concluded a strong positive relation between financial development and economic growth. Also, King and Levine (1993b) studied a sample of 70 countries and examined the impact of financial development on economic growth, capital accumulation and economic factor productivity and found a strong link between financial development and growth.

Levine et al (2000) and Beck et al (2000) evaluated the role of financial development in motivating economic growth and found that higher banking sector development implies higher economic growth and total factor productivity growth.

Calderon and Liu (2003) studied a sample of 109 developing and industrial countries and found that financial development led to economic growth in all countries and financial deepening stimulated economic growth.

More recently, Rachdi and Ben Mbarek (2011) found a long-term relationship between financial development and growth for the OECD and MENA countries and they also found a bidirectional causality for the OECD countries and unidirectional causality one from economic growth to financial sector development for the MENA countries case.

Awdeh (2012) studied the causality direction between banking sector development and economic growth in Lebanon over the period 1992-2011 and found a one way causality running from economic growth to banking sector measures such as deposit growth and credit to local private sector.

Petkouski and Kjosevski (2014) examined the relation between banking sector development and economic growth in 16 transitional economies from Central and South Eastern Europe and they showed that credit to the private sector and interest margin were negatively related to the economic growth.

Relating to the Palestinian case there are a number of studies which denoted to the effect of the banking sector on economic growth or discussed the relation between the banks credit facilities and economic development. Of those studies which used descriptive approaches: Migdad and Hills (2005) concluded that banks and Islamic bank in particular succeeded in collecting a reasonable volume of deposits, but failed to facilitate loans, a situation resulted in a simple role of banking credit facilities on economic development in Palestine.

Abueida and Zibda (2015) analyzed the role of commercial bank presented by credit facilities with regard to economic growth during the period 1994-2013. Study uses a Cob-Doglas production function in which the impact of total bank credit granted to the economy on the economic growth has been tested in comparison with other macroeconomic variables. Study showed a positive relationship between banks credit facilities and economic growth in Palestine.

In view of this background, this study adds another contribution in investigation the relationship between the Palestinian banking sector development and economic growth.

3. METHODOLOGY, DATA AND DESCRIPTIVE STATISTICS OF VARIABLES
3.1. Methodology

This study uses the GDP growth model based on a causality that runs from banking sector development to economic growth. It is stemmed from the neoclassical one sector production function where banking sector development is

an input, along with other variables. The model represented by the following equation;

$$Y_t = \alpha_0 + \alpha_1 K_t + \alpha_2 X_t + \varepsilon_t \qquad (1)$$

where Y represents the economic growth which proxies by the growth of GDP once and GDP per capita another one, K is a measure of the level of banking sector development, X represents a vector of other factors and variables and t represents time series periods.

Following a number of empirical studies focused on variables capturing the size, activity and the efficiency of financial/banking sector (De Gregorio and Guidott, 1995; Koivu, 2002 and Awdeh, 2012), we proxy the level of banking developments by the variables; banking sector assets to GDP ratio (ASTR) to assess the impact of the size of banking sector on economic growth. We use credit to private sector to GDP ratio (CRTR) to assess the impact of the activity on economic growth and the year lag of this measure is used to find out if there is a delay in the impact of local credit on economic growth. The banking market interest rate spread (IRS), which is the difference between deposits and lending rates in the banking market, is used as a good estimator for efficiency in the bank sector as it describes transactions costs within the sector and it is expected that growth is positively linked to investments affected by a reduction in these costs. Also, the growth rate of total sector deposits (DEP) is used to assess the impact of deposit inflows activity on economic growth.

To investigate the impact of the level of banking development on economic growth we estimate equation (2) by introducing the independent variables in growth form except for IRS due the behavior of these variables over time.

Therefore we estimate the following equation;

$$GDPG_t / (GDPPCG_t) = \alpha_0 + \alpha_1 ASTRG_t + \alpha_2 CRTRG_t + \alpha_3 DEPG_t + \alpha_4 IRS_t + \varepsilon_t \qquad (2)$$

Equation (2) can be estimated by using ordinary least squares method which introduces GDP growth and GDPPC growth variables as dependent variables and the employed variables in growth form except IRS one, as independent variables.

To give a judgment on the nature of impact and causality between economic growth and banking sector development measures we use Granger Causality test to examine the direction of causation and descriptive statistics is consulted too.

3.2 Data

The data used were extracted from Palestine Monetary Authority (PMA) statistics publications. The data for all the employed variables covered the time period 1995-2014, except for the variable banking market interest rate spread where data found available for the time period 2001-2014. The data for GDP, GDPPC and the banking development measures, assets, credit lending and deposits were taken in current prices US dollars.

3.3 Descriptive Statistics of Study Variables

We found the graph of the employed variable to a large extent, exhibits an increasing trend except for IRS which fluctuates around a stable pattern.

Mainly, descriptive statistics distinguished by low mean growth of assets and credit lending compared with that of deposits which have a higher one, higher variation of deposits growth compared with a lower variation for both assets and credit lending and noticeable positive correlation between deposit growth and economic activity measures growth compared with considerable but with a negative sign between assets growth and economic activity measures growth.

4. EMPIRICAL RESULTS
4.1. Regression Estimation

We proceed in this section by investigating the effect of banking sector measures on economic growth using OLS estimates. Table (3) presents the regression estimation for both GDPG and GDPPCG cases. In these cases we could include three models in order to: (a) avoid the multicollinearity among regressors, (b) test of the impact of different combinations of explanatory variables, and (c) to

minimize the number of included explanatory variable to preserve a sufficient number of degree of freedom.

In Table (1) all models in case of GDPG have noticeable explanatory power with adjusted R-squared ranging between 50% and 53% and have higher explanatory power in case of GDPPCG with adjusted R-squared ranging between 85% and 87%. The Durbin-Watson statistics with values close to 2 show that models are free of serial correlation and the F-statistics and probabilities values show the significance of these models.

Moreover, Table (1) shows that the banking sector size does have a significant impact on economic growth measures of both GDPG and GDPPCG but with a negative sign, a situation means that the large size of the Palestinian economy does not add value to its economy, despite the fact that the majority of its assets are invested locally or the economy not enough benefited from the growth in banking sector assets.

Both CRTRG and CRTRG(-1) do not impact significantly economic growth measure despite they have a positive effects, a situation suggest that credit provided by banks do not target sufficiently the productive sectors.

The growth rate of deposits is significantly correlated with both GDPG and GDPPCG in every model. Therefore, deposits flowing into the Palestinian banking sector do benefit local economy. Also, IRS is not significantly correlated with economic growth measures despite it has a positive effect.

Table(1): OLS Estimation Results

	Dependent Variable GDPG			Dependent Variable GDPPCG		
	1	2	3	1	2	3
Constant	0.0417 [1.2108]	0.0372 [1.0315]	0.0394 [0.9977]	-0.0062 [-0.2761]	-0.0112 [-0.4956]	-0.0330 [-1.3169]
ASTRG	-0.7464 [-4.7757]•	-0.7632 [-4.7018]•	-0.7519 [-4.5215]•	-0.9899 [-10.0143]•	-1.0010 [-11.0247•]	-1.0553 [-10.7329]•

CRTRG		0.2153 [0.5618]			0.15278 [0.7654]	
CRTRG(-1)			0.0532 [0.13263]			0.3799 [1.6819]**
DEPG	0.4348 [2.9312]*	0.4333 [2.8618]*	(0.4437) [2.6593]*	0.5777 [6.1607]*	0.5839 [6.2641]*	0.6853 [6.4894]*
IRS	0.0009 [0.1811]	0.0015 ([0.2725]	0.0012 [0.20411]	0.0017 [0.5394]	0.0023 [0.7351]	0.0043 [1.3729]
Adjusted R2	0.5324	0.5127	0.5037	0.8593	0.8548	0.8747
R2	0.6025	0.6102	0.6029	0.8889	0.8930	0.9076
F Stat.	8.59003	6.26616	6.0746	30.0167	23.3719	27.5252
Prob. F Stat.	0.001208	0.00314	0.0036	0.000001	0.000002	0.000001
Durbin Waston	1.9923	2.0150	1.9928	2.0133	2.0634	2.2228

Figures in parenthesis and brackets are t-statistic values, respectively. *and** show significant at 5% and10% respectively.

4.2. Granger Causality Tests

Following the regression estimation shown above we will perform a Granger Causality test between economic growth and banking sector development, as shown in Table (2).

Table (2): Granger Causalities Tests Results

GDPG Case	
Null Hypothesis	F-Statistic with Prob. Values
ASTRG does not granger Cause GDPG	2.80306** (0.0947)
GDPG does not granger Cause ASTRG	1.91041 (0.1847)
CRTRG does not granger Cause GDPG	2.40605 (0.1264)
GDPG does not granger cause CRTRG	1.2546 (0.3154)
DEPG does not Granger Cause GDPG	1.15935 (0.3421)

GDPG does not Granger Cause DEPG	0.89231	(0.4318)
IRS does not Granger Cause GDPG	5.14625·	(0.0211)
GDPG does not Granger Cause IRS	0.48553	(0.6254)
GDPPCG Case		
ASTRG does not granger Cause GDPPCG	1.6498	(0.2273)
GDPPCG does not granger Cause ASTRG	0.7881	(0.2423)
CRTRG does not granger Cause GDPPCG	2.38001	(0.1289)
GDPPCG does not granger cause CRTRG	2.2583	(0.1413)
DEPG does not Granger Cause GDPPCG	0.8407	(0.4525)
GDPPCG does not Granger Cause DEPG	0.2180	(0.8068)
IRS does not Granger Cause GDPPCG	6.0725·	(0.0126)
GDPPCG does not Granger Cause IRS	0.5767	(0.5745)

·and¨ show significant at 5% and10% respectively.

Table (2) displays the results of Granger Causality tests in cases of GDPG and GDPPCG with banking sector measures.

Results show the size measure (ASTRG) and the banking efficiency measure (IRS) Granger Cause economic growth in the Palestinian case in case of GDPG and only does (IRS) measure Granger Cause economic growth in case of GDPPCG.

On the other hand, the results of Granger Causality models denote that growth in economic activity represented by GDPG and GDPPCG seems not affect banking measures significantly. Thus, we conclude evidence of Granger Causality between some of banking sector measures (ASTRG, IRS) and economic growth that run from these measures to economic growth.

5. CONCLUSIONS

This paper uses both OLS analysis and Granger Causality test to investigate the relationship between the banking sector development and economic growth in Palestine over the period 1995-2014.

OLS estimation results show that the banking sector size have a significant impact on economic growth but with a negative sign. Credit lending do not impact significantly economic growth but lag credit has a marginal significant effect. The growth of deposits is significantly correlated with economic growth, meanwhile banking efficiency is not significantly correlated with economic growth.

Granger Causality test results show only a causality running from banking size to GDP growth and from banking efficiency to GDP per capita growth.

Overall these results reveal weak nexus between the banking sector development and economic growth. The study recommends specifically more improving in banking lending to private sector to be effective in promoting economic growth.

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