


“Does banking sector performance promote economic growth? Case study of Jordanian commercial banks”

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DOES BANKING SECTOR PERFORMANCE PROMOTE ECONOMIC GROWTH? CASE STUDY OF JORDANIAN COMMERCIAL BANKS

Abstract

Spurred by the need to evade possible parameter bias associated with earlier works, this study intended to address the subject of whether performance of commercial banking contributes to economic growth. With the aim of answering this question, the present review concentrates on analyzing the association between profitability, deposit and credit facilities as proxy for performance of commercial banks while gross domestic product proxies economic growth. The population of the study is characterized by the Jordanian banking industry; the study enclosed a period of six years from 2010 to 2015 constructed on the annual report of thirteen chosen banks. Using Ordinary Least Square, the regression outcomes found a significant positive association between measures of bank performance and economic growth. Findings demonstrate that measures of bank performance in particular profitability deposits credits have positive relationship with economic growth as measured by GDP. The empirical results suggest that the policy creators should make arrangements to augment and prompt the banking sector in Jordan on account of its key significance in making and advancing development of the economy. It additionally can be inferred that not only commercial banking performance but also other movables such as political stability and technology may assume essential part in the economic prosperity in Jordan.

Keywords

banking performance, economic growth, credit facilities,
gross domestic product

JEL Classification G21, C01, E44, O16

INTRODUCTION

Economic growth is one of the significant destinations of macroeconomic strategy. It is the crucial means of elevating expectations for living comforts and standards, as well as accomplishing economic development. Economic experts define economic growth from numerous perspectives. A number of economists see that it is a rise in the domestic income or the size of production of goods and services by a country over a specific timeframe. In general economic growth is characterized as an expansion in total national output. Consequently, gross domestic product (GDP) is considered as proxy of economic growth.

It is perfectly clear that countries that have great monetary and financial system tend to build up its economic development all more rapidly. Banking is a standout amongst the most basic organizations everywhere throughout the world as banks assume principal part in the economy of a nation, where they provide financial assistance to both government and

private sectors, however at the same time this sector also confronts incapacity because of non-performing credits and failed in recovery of given advances. In finance standings performance of the bank means profit and soundness in economic exercises. On the off chance that profitability of the bank is increasing continuously it implies that bank performance is growing. The solvency of the bank means capability to encounter its liabilities, if the bank is in the solid solvency situation it states the bank performance is good. There is no suspicion that the provision of money to investors in the financial markets, attempting to prepare these markets both in terms of size and prices, as it adds to an effective contribution to the creation of new economic projects and extension of existing projects, which implies support the economy for the better represented by increasing the standard of living, and expanded per capita income and corporate income and returns for the state through taxes and dues, as well of decreasing the unemployment rates through employing new workers in the new activities.

With reference to Rehman (2011) empirical work on financial restructurings considers in the formula of inflation, savings, deposit schedule, lending schedule and own spread rate. Later problem was not explored sufficiently about the performance meters of banking industry signified in the form of profitability, credit facilities and investments of banking industry. This study attempts to find out the association between factors which are included directly in the efficiency and performance of banking sector and boost the economic growth of Jordan. There are numerous views about the causality association between banks performance and the growth of any economy. Various clarifications have been presented empirically for this causality association and its causality direction. There has been a rising anxiety on banking industry for survival in Jordanian economy lately, even with the fact that the government set out on several procedures aimed at enhancing capital base and capacity employment of the sector to protect deposits. Besides, there are numerous literary works that bantered on the intermediary role of banks in the growth of economic. Be that as it may, there appear to be a general agreement that the role of intermediation of banks helps in boosting economic growth. Yakubu and Affoi (2014) recognized banks' conventional roles to incorporate financing of agriculture, manufacturing and syndicating of credit to gainful segments of the economy, in which profit is also realized by the banks within the economy.

In former studies many scholars establish negative impact (Fadare, 2010) on economy growth owing to restructuring in determining factor of financial performance and some discovered no or bad response compared to different sorts of financial sectors comprising banking sectors. In the best of knowledge there is a few evidences accessible on this theme all around the world, however in the event that we glance around in Jordan setting, couldn't discover enough reviews particularly in connection with banking performance determinants. There is a need of research in this casing of work to investigate the effect of profitability, deposit, investments, and credit. The banking sector is the backbone of the economy of any country, but, as stated by the current scenario, the banking sector is facing some difficulties. The central bank has enough reserves, but foreign currency reserve is decreased in last years. In Jordan the policies are very firm so that Jordan facing the problems of the trade shortfall, unemployment and inflation are increasing day by day. As a result of political instability and economic issues, the banking sector is passing from real issues due to which financial performance of our banking sector is greatly affected. Economic condition of the country is very poor that most of the industries transferred their operations in another country. FDI investor is not attracted in Jordan. Banks earning face some bad situations due to withdrawal of capital. This study attempts to contribute to the existing body of literature on the relationship between banking performance and economic growth in Jordan by addressing shortcomings of previous works. Therefore, the main objective of this paper is to provide evidence on whether banking performance reasons economic growth. Moreover, the study aimed to determine the efficiency of performing indicators of banking industries and its relation on economic growth. The rest of the paper is organized as follows. Section 1 reviews the empirical literature on the relationship of banking sector and economic growth. Section 2 discusses the empirical strategy for examining the relationship. Section 3 shows the model's estimation results. Final section concludes the study, provides some policy implications and sets directions for further research.

1. LITERATURE REVIEW

1.1. Theoretical background

1.1.1. *Economic growth*

The model of economic growth is regarded as an increase in the net national production in a given period of time (Dewett, 2005). This study elucidated that economic growth is in general referred to as a quantitative alteration in economic variables, normally persevering over successive periods. Todaro and Smith (2006) distinct economic growth as a sound process by which the productive volume of the economy is augmented over time to bring about rising levels of national production and income. Jhingan (2006) considers economic growth as rise in output and clarifies further that it is associated to a quantitative sustained rise in the country's per capita income or production escorted by increase in its labor force, consumption, capital and size of trade. The key features of economic growth are great rate of growth of per capita income or, high rate of yield, high rate of structural transformation, international flows of resources such as labor, goods and capital (Ochejele, 2007). Economic growth can also be expressed in terms of gross domestic product (GDP) and Index of Human Development (HDI), which is an index that gauges national growth based on measures of life expectation at birth, education accomplishment, literacy and adjusted real per capita income. Following the above definition we can draw that economic growth is went there is a sustained increase in the real production of goods and services per head. The gross domestic product is one of the most significant economic signs used by economic decision creators and government in preparation and formulates the policies. Gross domestic product (GDP) is the most imperative economic indicator that reflects overall health of the economy. If by growth you intend the increase of output of goods and services, then real GDP which measures growth without the effects of inflation is hardly acceptable (Lequiller, 2001). It has been put up for this purpose. Gross Domestic Product is clear as the totality of all goods and services created in a country over time, without double counting yields used in other output. It is a broad measure, casing the production of consumer goods and services, even government facilities.

1.1.2. *GDP and profitability*

Profitability and performance of banks is key to economic growth; the strength of most industries relies on the availability of finance provided within the economy by the banks to facilitate transaction. It is on this premise that this research is carried on to determine how profitability in the banking industry plays role in economic growth in Jordan. Profitability is calculated by return on total assets. It stands for the ratio which measures earnings before interest and tax expenses against its total assets. This ratio shows the firm's effectiveness of using its assets to generate earnings. Investor follows this ratio to make decision whether or not to invest in the company. This ratio shows how profitable a company is relative to its total assets. The return on assets (ROA) ratio explains how management is using the company's total assets making a profit. The higher the return, the better organized management is in utilizing its asset base (Francis, LaFond, Olsson, & Schipper, 2005).

1.1.3. *GDP and deposits*

Deposits are the money which people offer to banks and obtain interest as profit. Without having deposits banks are by able to invest and lend anywhere. There are different types of deposits like call deposits, saving deposits, current deposits, and fixed deposits.

1.1.4. *GDP and credit facilities*

A loan or collection of loans taken on by a corporation. These loans can be various different types, reliant upon the necessities of the company, and can diverge from letters of credit to term loans, and can be committed or uncommitted. After receiving deposits banks give loan to needy people and obtain interest.

1.2. Previous studies

Most scholars have agreed that there is association between bank lending and economic growth. However, researchers have differed on the direction of causality between bank lending and economic growth (Oluitan, 2009). Similarly, Oluitan (2009) is of the view that policy makers should concentrate less on measures leading to rise in bank lending and concentrate more on legal, reg-

ulatory and policy reforms that boost the functioning of markets and banks. Moreover, Neba Cynthia (2008), conducted a study on evaluating the role of micro finance institutions (MFIs) in the growth of Cameroon's economy. One of the key reasons of this study was to help government and other agents involved in the growth of the economy to develop a good developmental strategy and policies. The work also intended to help micro financial institutions to improve on their services or to implement advanced measures, so as to enhance economic growth in the economy. She made use of time-series experiment design in the collected data on two variables, loans provided by micro finance institutions and GDP per capital from 1996 to 2007. Loans provided by MFI were taken to be the independent variable while GDP was the dependent variable. Using both descriptive method of data analysis median, standard deviation and inferential tools of data analysis such as the F-test, R², t-test and Durbin-Watson statistics to test her null hypothesis, which was 'there is no relationship between loans given to the economy by MFIs and the GDP per capital' she concluded that credit granted by MFIs has a significant effect on the growth of the GDP per capita, hence she rejected her null hypothesis.

Ahmad and Malik (2009) inspected role of the financial development on the growth of economy covering thirty five developing nations done using GMM approach, and concluded if the local bank credit to the private segment amplified this will lead growing per workers productivity and subsequently in the long increasing the growth. Adamopoulos (2010) studied the connection between financial development represented by the stock market index and the local banking credits to private sector, and economic growth for the period 1965–2007 for Ireland utilizing a vector error correction model, Johansen Cointegration test. By using Granger causality tests the study specified that economic growth effects credit market development, while there is a joint causal association between development of stock market and economic growth. Consequently, it can be concluded that economic growth has a direct effect on stock market and credit market development considering the positive influence of growth of industrial production on economic growth.

Fidelis, Ogwumike and Salisu (2010) observed the relationship between bank deposit liability, credit to private sector, real discount rate and stock market capitalization (elements of financial development) and economic growth of Nigeria expressed by real gross domestic product for the period 1975 to 2008 and the study used the Bound test Autoregressive Distributed Lag (ARDL) approach. The outcomes demonstrated that there is a unique long run association between financial progress and economic growth. Furthermore, Egbetunde and Mobolaji (2010) looked at the causality and the long-run connection between financial development represented by private credit, bank credit, liquid liabilities and broad money and per capita real GDP as a measure of economic growth for ten Sub-Saharan African economies for the period 1970–2005. They used different tools, such as unit root test, Cointegration test, Granger causality test and Vector Error Correction Model (VECM) to inspect the hypotheses. The VECM and Cointegration consequences displayed that financial development and economic growth have a long-run association. Granger causality test illustrated that financial development Granger reasons economic growth for Burundi, Cameroon, Mali and Nigeria. While the economic growth reasons financial development for Benin, Burkina Faso, Madagascar and Malawi. Besides, there was bidirectional causality between financial development and economic growth for Cote d'Ivoire and Ghana.

Bangake and Eggoh (2011) surveyed the causality connection between financial development and economic growth for seventy one developing economies over the period 1960–2004. The empirical analysis used both the Panel Cointegration tests and the Panel Cointegration assessment (Dynamic OLS and panel VECM approach). The work showed that together financial development and economic growth have impact on one another, on the other hand proposes that a long run policy approach possibly will evidence valuable among the developing economies. Moreover, by Utilizing sample represented by countries from Middle East and North Africa over the period 1980–2007, Kar, Nazlioglu, and Agir (2011) explored the causal association between the ratio of narrow money to income, broad money to income, quasi money to income, deposit money bank liabilities to income,

domestic credit to income, and ratio of private sector credit to income. Additionally, the growth represented by real income. The simple linear model was employed in this study. The Granger Causality test was engaged to found the causal association between financial development and economic growth. The work concluded bidirectional causality. The study proposes that a significant relation may be present between financial development and the real sector.

Akpanung and Babalola (2012) inspected the association between credit in banking sector and economic growth in Nigeria for the period from 1970 to 2008 utilizing the least squares approach (two-stage). The study establishes evidence that credit in private sector positively affected on economic growth while lending rate slows down economic growth. In addition, in Nigeria and for the period 1970-2010 Shittu (2012) deliberated the association between the ratio of broad money supply (M2) to nominal gross domestic product (NGDP) as a measure of financial intermediation and the ratio of domestic credit to the private sector (CPS) to the nominal gross domestic product (NDGP). As well as economic growth measured by the growth rate of the real gross domestic product. The study utilized unit root test Johansen-Cointegration test and error correction model to observe the hypotheses. The study discovered that financial intermediation has direct effect on economic growth.

Ben Salem and Trabelsi (2012) experienced the association for the same issue in seven economies from Southern Mediterranean region during the period from 1970 to 2006. The study put on the Pedroni panel cointegration analysis for seven factors represented financial developments. The outcome of this study approved the presence of association with a long-run base between the financial improvement and the rate of growth. Reliant upon the consequences of earlier literatures review, the contribution or the importance of study came from many facts. Firstly it investigated the association between banking credit at the sectoral country-level which enclosed five sectors (agriculture, industry, construction, and tourism). What is more the study engaged more advanced econometric methods for example Vector autoregressive approach (VAR) model, and Granger Causality test.

Onuorah and Ozurumba (2013) disaggregated total bank credit to components such as Total Production Bank Credits (TPTBKC), Total General Commerce Bank Credits (TGCBKC), Total Services Bank Credit (TSCBKC), and Other Banks Credit (OTHBKC) and also established that none of the components granger caused RGDP, while RGDP applied noteworthy influence on the different components. In contrast, Oluitan (2012) detected that credit granger caused output.

For India, Ray (2013) studied the causal dynamic associations between the degree of financial development gauged by gross domestic capital formation to GDP, gross domestic savings to GDP and the ratio of outstanding debt to GDP. Labor force growth proxied by Population growth and annual growing of exports as a measure of the level of trade openness and the economic growth measured by annual growing of GDP for the period from 1990 to 2010. The study used Granger causality to examine the causality between variables; it found that financial growth measures granger affected economic growth as there was a unidirectional causality running from gross domestic capital formation and gross domestic savings to economic growth. The study did not find a causality running from exports progress and population growth to economic growth.

Recently and for instance, Emecheta and Ibe (2014) employed the reduced Vector Autoregression approach utilizing data from Nigeria for the time period 1960-2011 to examine the association between banking credit and economic growth. Among some methodological inadequacies, such as his failure to harmonise the different base periods for the real Gross Domestic Product data used and the fact that he ignored the possibility of structural breaks effects in his modelling approach, the study established a significant direct relationship between banking credit and economic growth. Studies with similar findings, but susceptible to the methodological flaws observed in Emecheta and Ibe (2014) include Akpanung and Babalola (2012) using annual data for the time span 1970-2008, Oluitan (2012) using data for the time period 1970-2005, Onuorah and Ozurumba (2013) utilizing data for 1980-2011, and Yakubu and Affoi (2014) used annual data for 1992-2012. In the same context, Balago (2014) empirically

inspected the relationship between Development in Financial Sector measured by bank credits, total market capitalization and foreign direct investment and economic growth. To examine the hypotheses the study utilized data for the period 1990–2009 and used various econometric techniques for example Augmented Dickey Fuller (ADF) test, Johansen Multivariate Co-integration Test, Ordinary Least Square Regression and Vector Error Correction Model (VEC). The study discovered that the financial development has a significant and positive impact on economic growth. Olowofeso, E. O., Adeleke, A. O., & Udoji, A. O. in their study (2015) deliberated the impact of credit in private sector on economic growth in Nigeria. The study examined the impacts using the Gregory and Hansen (1996) cointegration test that accounted for structural breaks and endogeneity problems. The technique was applied to quarterly data across 2000:Q1 to 2014:Q4, while the fully modified ordinary least squares procedure was engaged to estimate the model coefficients. The results found a cointegrating association between output and its selected determinants, albeit, with a structural break in 2012:Q1. Amongst others, discoveries from the error correction model established a positive and significant effect of credit on output, while increased prime lending rate was impeding growth. In view of the financial intermediation roles of deposit-money banks, the research backings the ongoing efforts of the Central Bank of Nigeria in endorsing a rigorous and real sector-friendly financial system. Similarly, the commitment of the CBN to the gradual lessening in interest rates is significant for the country's growth goals.

Utilizing annual data for the time span 2006–2012, Korkmaz, S. (2015) explored the influence of banking credits on economic growth and inflation. The study illustrated economic functioning would be realized non-problematically to a degree that countries could reach financial deepening. Financial deepening would deliver a crucial role for particularly moving funds that were generated by banks to real sector. Whether local credits created by banks had any impact on macroeconomic variables such as economic growth and inflation for ten selected European economies via panel data analysis was verified. As a consequence of panel data analysis, it was evidenced that local credits generated by banking sector for ten European countries did not impact inflation but did influence economic growth.

In context of Kosovo, Mazelliu, M., & Zogjani, J. (2015) examined the impact of financial segment on economic growth. The study points out that financial sector was world-wide reflected by the core component of the economic growth (Greenwood, 2013). This study intended to present the effect of financial sector on economic growth during the period span from 2008 until 2014. The focal theoretical arguments for discussion and analysis concentrated on the difficulties and challenges of financial segment in Kosovo under former Yugoslavia, the main process of establishment of financial sector in Kosovo in post war period, overall structure of financial sector in Kosovo, the effect of financial global crisis on financial sector particularly on foreign capital / investors in banking system and other factors that have impacted lessening of the annual rate of financial sector in 2010 and 2011. This research used secondary data, which are computing through STATA program and as the main analyses in the paper are descriptive statistic, OLS method and correlation matrix. The outcomes of analyses have revealed that financial sector has direct impact and positive correlation with economic growth, inflation rate has positive effect and positive significance on economic growth and exchange rate has adverse impact and insignificance in economic growth. As a result the research closes that financial sector should play a critical role in Kosovo's economy because its contribution in GDP is too great, where together with FDI and remittance they contribute about 60% of Kosovo's GDP. Irrespective of decline of financial sector in last few years (as result of reflection of global crisis in Kosovo), it is very essential for the financial sector to continue to rise further its contribution in overall economy of Kosovo.

Kenza, M., & Eddine, G. N. S. (2016) experienced the effect of the development of financial sector on growth for the case of the MENA economies. This research is designed to observe the impact of financial development on economic growth in the context of the MENA region. The study adopted a number of measures of financial development such as private credit to GDP, M2/GDP, the ratio of commercial bank assets to the total of commercial bank assets and central bank assets. It also has considered growth rate of real GDP as dependent variable and few core control variables of economic growth. This study engaged also panel time series data during the time span of 1980–2012 for each indicator for a split sample of elev-

en MENA countries. With the aim of measuring the impact, this study analyzed the data by applying panel autoregressive distributed lag (ARDL) framework of pooled mean group (PMG), mean group (MG) and Dynamic fixed effect (DFE) estimators. The end result obtained from PMG estimators revealed that the financial intermediary has an adverse effect on the growth rate in the MENA countries in the short and long run. The paper concluded by pointing out directions to improve financial development in the MENA economies by applying more financial reforms to endorse competition in the financial sector and financial structure expansion that mirrors in the progress of the quality and quantity of financial services.

2. CONCEPTUAL FRAMEWORK

2.1. Methodology

This study relies purely on secondary data collected from the different official publications of respected banks and the Central bank of Jordan. The validity and reliability of the data collected was based on similarity and sameness of the facts and figures from the multiple sources. Similarly, in this study, it is presumed that the level of performance of the Jordanian economy (represented by GDP) is dependent (dependent variable) on profitability, deposits, credit facilities (independent variables). Profitability (profit after tax) is in the income statement; the study has taken from income statement, which shows the profits of banks. The deposit is on the liability side of the balance sheet and these are deposits of customers maintained by banks in customer accounts. Credit facilities are on the assets side of the balance sheet. Credit facilities are the assets of the bank through which bank earns profit by lending it to borrow at some interest rate. In this study we have used the data of

thirteen banks from the period of 2010 to 2015. In addition, in order to examine the impact of banks performance economic growth proxy by GDP in Jordan, multiple regression model was used to analyze the data gathered for this study. Accordingly, the multiple regression model is specified thus:

$$GDP = \alpha + \beta_1 PRF + \beta_2 DEP + \beta_3 CF + \varepsilon,$$

where:

GDP – economic growth as measured by GDP growth (estimated value of the dependent variable);

α – base constant;

$\beta_1 - \beta_3$ – coefficients of the independent variables.

Explanatory variables:

PRF – Profitability;

DEP – Deposits;

CF – Credit facilities;

ε – error term.

The statistical significance of the regression coefficient is based on the appropriateness of the sign of the coefficient of determination. This research is based on the following hypothesis that clearly defines the research criterion.

H1: Profitability has no significant impact on Economic Growth.

H2: Deposit has no significant impact on Economic Growth.

H3: Credit Facilities has no significant impact on Economic Growth.

Source: author's design.

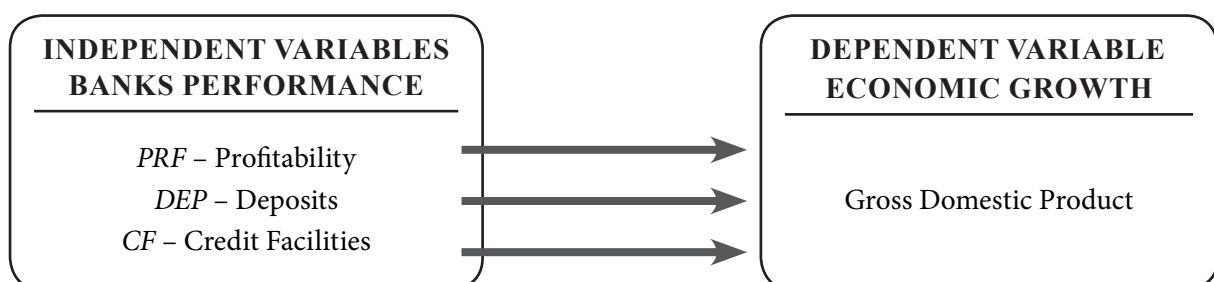


Figure 1. Conceptual Framework

3. RESULTS ANALYSIS

3.1. Descriptive statistics

Table 1 represents the descriptive statistics of the model. In the above table GDP is a dependent variable and PRF, DEP and CF are independent variables. The sample size comprises of 78 observations from the period of 2010 to 2015 of thirteen banks. The minimum and maximum value of GDP (18762.625) & (26625.819) respectively, whereas the mean value is (22854.302) and standard deviation is (3934.854). The minimum and maximum value of PRF (531.029) & (703.811) respectively, whereas the mean value is (616.625) and standard deviation is (86.394). DEP having minimum value (30242.469), maximum value (41819.378), mean value (35505.052) and standard deviation (5812.293). CF having minimum value (20580.288), maximum value (24570.104), mean value (22385.104) and standard deviation (2003.944).

Table 1. Descriptive statistics

Variables	GDP	PRF	DEP	CR
Mean	22854.302	616.625	35505.052	22385.104
Maximum	26625.819	703.811	41819.378	24570.104
Minimum	18762.625	531.029	30242.469	20580.288
Std. dev.	3934.854	86.394	5812.293	2003.944
Observations	78	78	78	78

3.2. Multicollinearity test using variance inflation factor

Table 2. Variance Inflation Factor Test

Variable	VIF	1/VIF
PRF	1.425	0.6247
DEP	1.589	0.3824
CF	2.154	0.1846
Mean VIF	1.723	

VIF is the test of multicollinearity among the variables (Excessively high correlation among the independent variables). The rule of thumb describes that VIF is greater than 10 and 1/VIF is less than 0.10 indicates the presence of multicollinearity. The result shows that no multicollinearity problem since VIF is less than 10 and 1/VIF is greater than 0.1. Moreover, if $VIF_5 < 10$ no problem of Muticollinearity (Gujarati, 2005).

3.3. Results of OLS

Table 3. Results of OLS

Variables	Coefficient	t-Statistic	Probability
C	0.923	7.451	0.000
PRF	0.037	0.286	0.046
DEP	0.536	3.007	0.028
CF	0.012	4.955	0.007
R-squared		0.735	
Durbin Watson		1.869	
F Statistic (Probability)		60.28 (0.000)	

Table 3 above shows the result of OLS regression. R-Square is called the coefficient of determination and it gives the adequacy of the model. Here the value of R-square is 0.735; p-value is less than 0.05 that implies the independent variable in the model can predict 73.5% of the variance in dependent variable. On the overall, this study discovered that there exists a 0.735% degree of variation between bank profitability, deposit, lending and economic growth in Jordan for the period 2010-2015, which implied that aggregate bank lending account for 73.5% variation in the growth of the Jordanian economy. The implication of this outcome is that for the Jordanian economy to grow it depends to a greater extent on the banking sector to finance the activity sectors in Jordan. The values of Durbin-Watson statistics for dependent variables in our case is very near to 2.00, this specifies that there is no autocorrelation and the regression models assume that the error deviations are uncorrelated. In the results PRF (0.037, $P < 0.05$), DEP (0.536, $P < 0.05$) and CF (0.012, $P < 0.01$), the coefficients showed that change in bank profitability, deposit and credits will cause a significant positive change in gross domestic product, which represents the economic growth in the current study.

$$GDP = 0.923 + 0.037 \cdot PRF + 0.536 \cdot DEP + 0.012 \cdot CF.$$

Overall significance of regression model is identified by F-value. It is actually the described variance divided by unexplained variance (mean error). F-stat shows the value (60.28) and it's probability (0.000) that shows the panel regression end result is statistically significant at the 5% level.

CONCLUSION AND RECOMMENDATIONS

The study was carried on to investigate the contributions of banking sector performance in economic growth of Jordan represented by the gross domestic product. The gathered data have covered the time period from 2010 to 2015 of 13 banks, whereas multiple regression models have been used for analyzing the data. The findings posit that any change in banks' performance represented by profitability (ROA), deposits, and credit facilities will significantly cause a change in the economic growth. This was confirmed by the regression results which indicate that profitability, deposits and credit facilities have significant positive impact on economic growth. It is to be suggested that in Jordan banking sector is contributing a major role in economic development, so from the foregoing, Government policies should be channel towards adopting efficient policies that enhance the performance of banking sector in other to increase aggregate output as this enhances economic growth because banks are important in stimulating economic growth. Moreover, the regulatory authority should focus attention to ensure that the gains of the banking reforms processes are sustained, the CB should take more decisive measures aimed at tightening the risk management framework of the Jordanian banking sector as this will have a positive effect on the their profitability. Based on the area and findings of the study, banks' profitability has a significant effect on economic growth in Jordan. However, economic growth also has its effect on banks' profitability, which other researchers can embark upon to find out the relationship if any that exists between economic growth and banks profitability. It also can be concluded that not only commercial banking performance but also other variables such as political stability and technology may play important role in the economic credits in Jordan.

SUGGESTIONS FOR FURTHER RESEARCH

Since this work is concentrated on the function of commercial banks on economic growth, a further research can be conducted on the role of financial system as a whole on economic growth, in this case information will not only be composed on commercial bank, but also on other financial institutions, such as micro finance institutions, insurance companies, money market institutions and capital market institutions. Again research can still be done on the same topic that is assessing role of commercial bank on economic growth. However, the research can rely on more variables such as: amount of money of these financial institutions (commercial banks) invest in the acquisition of financial assets such as bonds and shares.

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REFERENCES

1. Adamopoulos, A. (2010). Financial development and economic growth an empirical analysis for Ireland. *International Journal of Economic Sciences and Applied Research*, 1, 75-88.
2. Ahmad, E., & Malik, A. (2009). Financial sector development and economic growth: An empirical analysis of developing countries. *Journal of Economic Cooperation and Development*, 30(1), 17-40.
3. Akpansung, A. O., & Babalola, S. J. (2012). Banking Sector Credit and Economic Growth in Nigeria: An Empirical Investigation. *CBN Journal of Applied Statistics*, 2(2), 51-62.
4. Balago, G. S. (2014). Financial sector development and economic growth in Nigeria: An empirical investigation. *International Journal of Finance and Accounting*, 3(4), 253-265.
5. Bangake, C., & Eggoh, J. C. (2011). Further evidence on finance-growth causality: A panel data analysis. *Economic Systems*, 35(2), 176-188.
6. Ben Salem, J. B., & Trabelsi, M. (2012). More on finance and growth in the MENA region: more growth, more finance. *Middle Eastern Finance and Economics*, 17, 113-124.

7. Dewett, K. K. (2005). *Modern Economic Theory*. Shyam Lal Charitable Trust, New Delhi, India.
8. Egbetunde, T., & Mobolaji, H. I. (2010). An Empirical Analysis of Causality Between Financial Development Economic Growth: Further Evidence from Sub-Saharan Africa. *Journal of Economics Theory*, 4(2), 50-58.
9. Emecheta, B. C., and Ibe, R. C. (2014). Impact of Bank Credit on Economic Growth in Nigeria: Application of Reduced Vector Autoregressive (VAR) Technique. *European Journal of Accounting Auditing and Finance Research*, 2(9), 11-21.
10. Fadare, S. O. (2010). Recent banking sector reforms and economic growth in Nigeria. *Middle Eastern Finance and Economics*, 8, 1450-2889.
11. Ogwumike, F. O., & Salisu, A. A. (2012). Financial development and economic growth in Nigeria. *Journal of Monetary and Economic Integration*, 12(2), 91-119.
12. Francis, J., LaFond, R., Olsson, P., & Schipper, K. (2005). The market pricing of accruals quality. *Journal of accounting and economics*, 39(2), 295-327.
13. Greenwood, J., Sanchez, J. M., & Wang, C. (2013). Quantifying the impact of financial development on economic development. *Review of Economic Dynamics*, 16(1), 194-215.
14. Gregory, A. W., & Hansen, B. E. (1996). Residual-based tests for cointegration in models with regime shifts. *Journal of econometrics*, 70(1), 99-126.
15. Gujarati, D. N. (2005). Sangeetha (2007). *Basic econometrics*, 4, 304-331.
16. Jhingan, M. L. (2006). *The Economic of Development and Planning*. 38th Edn., Virnda Publication (P) Ltd., Delhi.
17. Kar, M., Nazhoğlu, Ş., & Ağır, H. (2011). Financial development and economic growth nexus in the MENA countries: Bootstrap panel granger causality analysis. *Economic modelling*, 28(1), 685-693.
18. Kenza, M., & Eddine, G. N. S. (2016). The Effect of the Financial Sector development on Growth: The case of the MENA Countries. *Arab Economic and Business Journal*, 11(1), 72-85.
19. Korkmaz, S. (2015). Impact of bank credits on economic growth and inflation. *Journal of Applied Finance and Banking*, 5(1), 51.
20. Lequiller, F. (2001). *The new economy and the measurement of GDP growth* (No. g2001-01). Institut National de la Statistique et des Etudes Economiques, DESE.
21. Mazelliu, M., & Zogjani, J. (2015). Impact of Financial Sector on Economic Growth: Evidence from Kosovo. *Mediterranean Journal of Social Sciences*, 6(6 S4), 315.
22. Neba Cynthia (2008). *Assessing the role of Micro Finance Institutions on Economic Growth in Cameroon*. Unpublished.
23. Ochejele, J. J. (2007). *Economic Analysis*. Ichejum Press, Jos.
24. Olowofeso, E. O., Adeleke, A. O., & Udoji, A. O. (2015). Impact of private sector credit on economic growth in Nigeria. *CBN Journal of Applied Statistics*, 6(2), 81-101.
25. Oluitan, R. (2009). Retrieved on January, 2017, from <http://www.csae.ox.ac.uk/conferences/2009EdiA/papers/094-Oluitan.pdf>
26. Oluitan, R. O. (2012). Bank Credit and Economic Growth: Evidence from Nigeria. *International Business and Management*, 5(2), 102-110.
27. Onuorah, A. C., & Ozurumba, B. A. (2013). Bank credits: An aid to economic growth in Nigeria. In *Information and Knowledge Management*, 3(3), 41-50.
28. Ray, S. (2013). Does Financial Development Promote Economic Growth in India? *International Journal of Economic Practices and Theories*, 3(3), 140-151.
29. Rehman, W. U., Chaudhary, A. R., Rehman, H. U., & Zahid, A. (2011). Intellectual capital performance and its impact on corporate performance: An empirical evidence from MODARABA sector of Pakistan. *Australian journal of business and management research*, 1(5), 8.
30. Shittu, A. I. (2012). Financial intermediation and economic growth in Nigeria. *British Journal of Arts and Social Sciences*, 4(2), 164-179.
31. Todaro, M. P., & Smith, S. C. (2006). *Economic Development*. 9th Edn., Pearson Education Ltd., England.
32. Yakubu, Z., and Affoi, A. Y. (2014). An Analysis of Commercial Banks' Credit on Economic Growth in Nigeria. *Current Research Journal of Economic Theory*, 6(2), 11-15.