

November 2022

THE EFFECT OF THE SYRIAN CRISIS ON THE PROFITABILITY OF THE COUNTRY'S PRIVATE BANKING SECTOR

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Syrian Crisis, Profitability, Return on Average Assets, Banking Sector, Panel Data, Financial Performance

Recommended Citation

Alyousef, Osama (2022) "THE EFFECT OF THE SYRIAN CRISIS ON THE PROFITABILITY OF THE COUNTRY'S PRIVATE BANKING SECTOR," *BAU Journal - Creative Sustainable Development*. Vol. 4: Iss. 1, Article 7.

DOI: <https://www.doi.org/10.54729/GYXP1420>

Available at: <https://digitalcommons.bau.edu.lb/csdjournal/vol4/iss1/7>

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THE EFFECT OF THE SYRIAN CRISIS ON THE PROFITABILITY OF THE COUNTRY'S PRIVATE BANKING SECTOR

Abstract

This research analyses the effect of the Syrian crisis on the profitability of local private banks during the period from 2011 to 2018 using fixed effects estimator on panel data. The research studies all of the 14 Syrian private banks and includes bank-specific variables calculated from the published quarterly and annual reports of all the banks, as well as a variable for the Syrian crisis measured by the following macro-economic factors: the number of crisis-related casualties, the number of Syrians who fled the country as refugees or asylum seekers, and the Syrian Pound exchange rate against U.S. Dollar during the studied period. Using return on average assets (ROAA) as the dependent variable, the research results found that bank capital, deposits, and loans to assets all have a statistically significant positive effect on profitability at 1%, while operating efficiency and asset quality have a statistically significant negative effect on profitability at 1% and 5% respectively. Furthermore, the macro-economic variable of the Syrian crisis has a statistically significant negative effect on profitability at 1%. The results of this paper enhance the understanding of profitability determinants during crisis times and provide supervisory authorities and banks with important indicators regarding profitability in economic distress periods.

Keywords

Syrian Crisis, Profitability, Return on Average Assets, Banking Sector, Panel Data, Financial Performance

1. INTRODUCTION

The Syrian crisis started in March 2011 as protests against the regime, but very soon it turned into an armed conflict that affected every aspect of life in the country. The Syrian crisis severally affected the whole region especially neighboring states (like Turkey, Lebanon, Iraq, and Jordan) that suffered massive disruptions in trade, terrorism activities transferred into their borders, and most importantly the inflow of millions of refugees. (Dacrema and Talbot, 2019).

The economic and social effects of the Syrian crisis are catastrophic. Although the private banking sector in Syria, which is relatively new, was severely affected by the crisis, it somehow managed to survive and none of the banks operating in Syria bankrupted or exited from the market. Since profitability is considered a key indicator of the banks' financial performance, it is very important to study the crisis effect on it.

This research examines the effect of the Syrian crisis on the profitability of the private banking sector in Syria by considering all of the 14 Syrian private banks (11 conventional and 3 Islamic banks) during the period from 2011 to 2018 on quarterly basis. The studied period witnessed the crisis's most severe effects on different levels. The research includes bank-specific variables as well as a variable of the Syrian crisis which consists of three macroeconomic factors.

2. THEORITICAL FRAMEWORK

2.1. Overview of the Syrian Crisis

The Syrian crisis has evolved into a complex combination of civil war, revolution, terrorism, and a war amongst regional and global players (Turkmani and Haid, 2016). The conflict in the country has witnessed many transformations, and the movement that started as a peaceful protest gradually turned into an armed insurgency. Later on, Syria witnessed influx of foreign fighters and foreign funds to the more radical elements of the opposition, while foreign groups joined the regime's forces. Finally, the Kurdish minority in the north, supported by US forces, sought independence through self-governance and decentralization from the Syrian regime.

In general, the conflict in Syria can be divided into two halves. The first half involved primarily Syrian and regional powers such as Qatar, Saudi Arabia, Turkey and Iran; but during the second half new global players came on the scene. In 2014 the US air force, as part of a coalition formed to fight the Islamic State (IS), started bombing Syrian territories; September 2015 witnessed the start of Russian military intervention in Syria to support the government; finally, some northern-eastern parts of Syria were occupied by Turkey in 2016 and 2018 (Dacrema and Talbot, 2019).

According to (SCPR, 2020; Daher, 2019; Daher, 2021) the most important impacts of the Syrian crisis can be summarized as follows:

- During the first 8 years of the crisis, total casualties is estimated to have reached 570 thousand, which represents more than 2.5% of pre-war population of Syria (SCPR, 2020).
- The conflict forced more than 5.6 million Syrians to leave their country and live as refugees in other countries, while 6.14 million people were internally displaced by August 2019, which is the largest number of "internally displaced people" (IDPs) due to conflict in the whole world (SCPR, 2020).
- The population of Syria (inside the country) decreased by 2.3% in 2015, 2.9% in 2016, and 1.9% in 2017. Then it increased by 0.9% in 2018 (SCPR, 2020).
- By the end of 2016, the rate of overall poverty peaked at 89.4% then dropped to 86% in 2019 due to an improvement in economic growth, yet Syria witnessed a price increase during the last three months of 2019 which negatively affected the poverty rates (SCPR, 2020).
- The Food Security Index dropped significantly by about 34% during 2010-2014, while the index declined by about 8% in 2018 compared to 2014 (SCPR, 2020).

- The private banking sector lost its base due to the conflict and sanctions. The total deposits in all private banks decreased from USD 13.87 billion in 2010 to USD 2.6 billion at the end of 2019 (at the official exchange rate). In 2020, the deposits in state-owned banks exceeded 65% of all deposits (Daher, 2021).
- During the crisis, private banks reduced their lending activities due to the challenging business environment and risky market in Syria. They also had to deal with higher rates of default and growing amount of non-performing loans (Daher, 2021).
- The performance of private banks had slightly improved by 2017. The real value of their assets grew from USD 3.6 billion to USD 5.8 billion between 2016 and 2019. However, in 2020 the real value of private banks' total assets dropped sharply to USD 4.3 billion due to the continual depreciation of the SYP and the pandemic, while banking activities such as providing loans were suspended between June and September 2020 (Daher, 2021).
- The market share of the three Islamic banks in Syria increased from 17% of private banks' total assets to 43.3% between 2011 and 2020. They opened new branches and expanded their activities and operations such as providing loans and advances (Daher, 2021).
- By the end of 2019, the total accumulated loss of the economy is estimated to reach USD 530.1 billion, which equals 9.7 times of 2010 GDP at constant prices. The total GDP loss is equivalent to USD 420.9 billion (SCPR, 2020).
- The main source of revenue and foreign currency for the public budget before the crisis was the mining sector exports. Oil production has witnessed a sharp decline since the start of the crisis. It decreased from 386,000 barrels per day to around 44,000 barrels in 2019. Gas production which is essential for generating electricity fell from 7.6 billion cubic meters to 5.4 billion between 2010 and 2019 as shown in Fig.1 (SCPR, 2020).

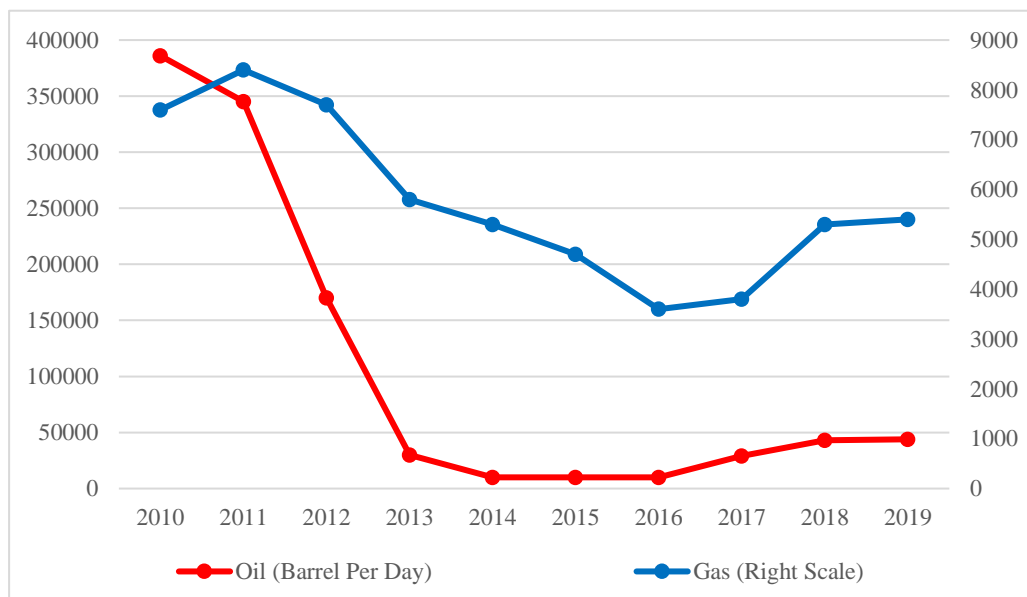


Fig.1: Production of Oil and Gas (2010 – 2019)

Source: SCPR report 2020, Syria Justice to Transcend Conflict, Impact of Syrian Conflict Report 2016- 2019; Ministry of Petroleum and SCPR estimation, 2019

- Total employment fell remarkably from 5.184 million to 2.568 million between 2011 and 2016, and then gradually increased to 3.058 million in 2019. The unemployment rate rose from 14.9% to 51.8% between 2011 and 2016 and then gradually decreased to 42.3% in 2019 (SCPR, 2020).
- Public expenditure decreased sharply from 28.9% of GDP in 2011 to 17.6% of GDP in 2015 and 13.3% in 2019. Current expenditure decreased from 21.6% of GDP in 2011 to 15.3% in 2015 and 10.5 % in 2019 (SCPR, 2020).
- Public subsidies to current GDP decreased from 20.2% in 2011 to 13.1% in 2014. The subsidies dropped significantly to 5.1% in 2015 and 4.9% in 2019 as a result of price

liberalization. Subsequently, the deficit in public budget with off-budget subsidies fell from 23.6% in 2013 to 8.8% in 2019 (SCPR, 2020).

- Fiscal deficit in Syria is funded through public debt which is mainly covered domestically by the Central bank of Syria. The total public debt rose sharply from 31% of GDP in 2010 to 208% of GDP in 2019 (Daher, 2019).
- Direct and indirect tax revenue recorded SYP 409 billion (USD 942 million) in 2018, losing over 86% of its value in 2011 which was SYP 325 billion (USD 7 billion) (Daher, 2019).
- The Syrian pound (SYP) exchange rate against the US dollar depreciated in the parallel market (black) by 54% in 2012, 105% in 2013, 14% in 2014, 75% in 2015, and 66% in 2016. The period between June 2016 and September 2017 witnessed a stabilization in SYP exchange rate. The Syrian currency appreciated against US dollar between October 2017 and July 2018 as a result of reduction in the conflict's intensity (SCPR, 2020).
- The purchasing power of the SYP has been affected by the continuous fall of its value which in turn led to high rates of inflation. As a result, people's consumption was limited to basic needs. Fig.2 shows inflation rate and consumer price index (2011-2018) (Daher, 2019).

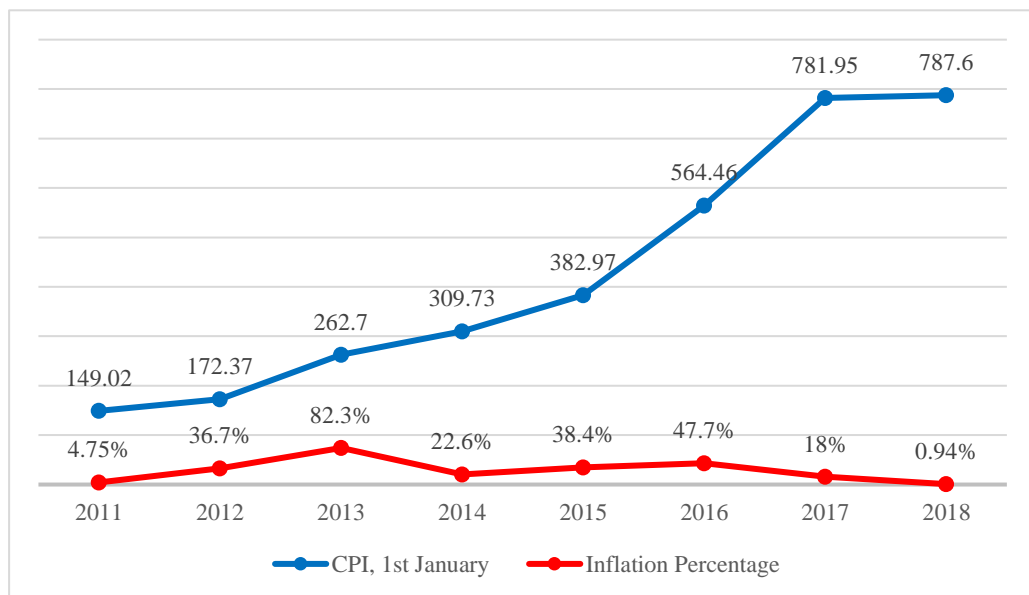


Fig.2: Inflation and Consumer Price Index (2011-2018)

Source: The Central Bank of Syria

2.2. The Effect of the Syrian Pound Depreciation on the Profitability of Private Banks

Even though there is a wide range of factors that can be used to explain the effect of the crisis on profitability such as bank run, loss of confidence, loss of security and many other factors, this section focuses only on the direct effect of depreciation of Syrian pound as its main objective is to shed light on how the massive devaluation of the currency created huge unrealized profits. These profits should be excluded when analyzing profitability determinants during the crisis as including them creates misleading information.

The exchange rate of SYP against USD was relatively stable before the crisis at (48 – 50), but as soon as the crisis started, the exchange rate of the Syrian pound dropped remarkably against USD reaching SYP 60.5 by the end of 2011 compared to SYP 52 in March of the same year. The depreciation of SYP value against USD has continued and the exchange rate reached SYP 93.5 in January 2013. Triggered by a possible American strike against Syria in August 2013, the SYP/USD exchange rate depreciated sharply to the level of SYP 300 (Hassani, 2015). Later on, the exchange rate resumed its fluctuations reaching SYP 600 in May 2016 which is the highest rate during the studied period. The SYP exchange

rate against USD has improved slightly ever since and remained relatively stable from July 2016 to the end of 2018 at (450 - 520).

The SYP value dropped sharply after the financial crisis of Lebanon in late 2019, and the correlation between the SYP and Lebanese Pound (LBP) increased remarkably. The main reasons for this correlation are the active commercial and trade transactions between the two countries, as well as the increased reliance of Syrians on the Lebanese banking sector for their personal and commercial activities. Also, the dependence of businesses in Syrian on the Lebanese financial sector to avert sanctions and obtain dollars from the Lebanese black market, paired with the smuggling of Lebanese subsidized diesel, gasoline, and other goods into Syria have intensified pressures on exchange markets and strengthened the correlation between SYP and LBP. However, this correlation weakened in late 2021 after the termination of Lebanon's subsidies program as a result of a decreased demand for US dollar by Syrians to buy smuggled subsidized goods (World Bank Group, 2022).

Syrian private banks keep part of their assets in foreign currency (FC). One main source of this foreign currency is the structural foreign currency position which represents the part of the bank's capital paid in foreign currency by its parent company / bank (the strategic partner). Since most of these funds were paid before the crisis, when SYP exchange rate was stable, their value has increased significantly during the crisis with a depreciated SYP exchange rate. This resulted in huge accumulated profits due to re-evaluation of the structural foreign currency position, and as per the supervisory authorities' decisions, these profits are non-distributable and non-taxable despite recording them in the income statement.

Recording the "unrealized" profits of structural foreign currency's re-evaluation in the income statements of the banks showed profitable financial statements during the crisis. Alqadi and Hashem (2015) argued that including these profits in income statements creates misleading information. In their research, they pointed out that these profits are not generated from ordinary banking operations and activities. The banks only benefit from depreciation of SYP value to record these profits, and as the accounting practice of including these profits in income statements holds true based on the accounting standard IAS 22, the researchers believe that banks should consider the general increase in prices and apply IAS 29 for hyperinflationary economies to avoid any misleading caused.

Based on this argument, Fig.3 illustrates a comparison between average net income of all Syrian private banks between 2011 and 2018 (31 December of each year) and average net income adjusted by excluding structural FC re-evaluation profits. It is obvious that including these profits in income statements enhanced the profitability measures of the banks in most years.

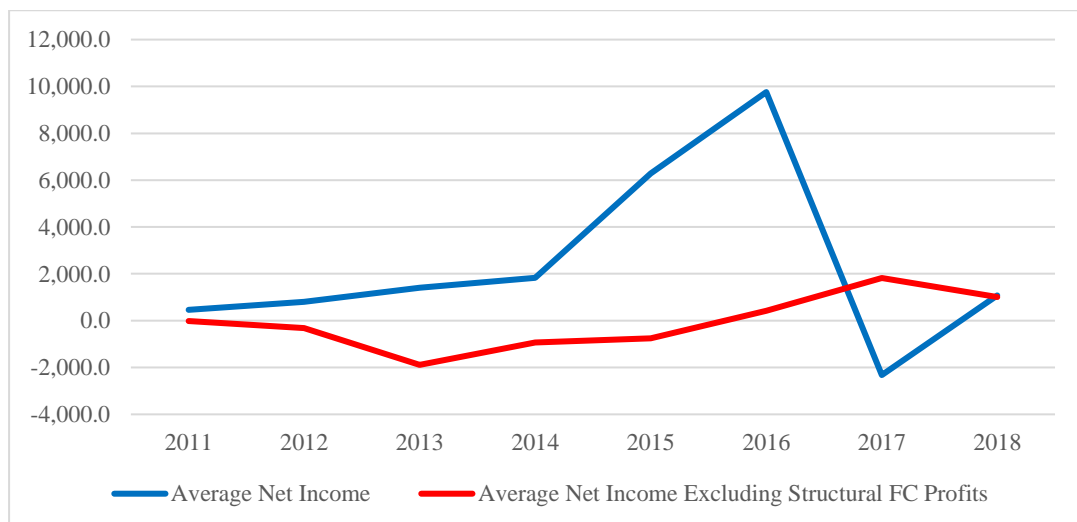


Fig.3: Average Net Income Before and After Excluding Structural FC Re-evaluation Profits in 31 December Each Year (Amounts are in SYP Thousands)

Source: Prepared by the Author from the Annual Reports of Syrian Private Banks

3. LITERATURE REVIEW

In order to study the determinants of Swiss commercial banks' profitability and how the global financial crisis affected it, Dietrich and Wanzenrie (2010) analyzed the effects of bank specific variables, industry related factors, and macroeconomic variables on the profitability of 453 Swiss commercial banks between 1999 and 2008.

The study used the return on average assets as the main measurement of profitability and concluded that banks with better capitalization are more profitable. While the ratio of cost to income is correlated with profitability only prior to the crisis. The loan loss provisions as a percentage of total loans negatively affects profitability and this relationship was more obvious during the years of the crisis. The researchers also concluded that there is a negative relationship between profitability and share of interest income in the period prior to the crisis. Furthermore, government and foreign bank's ownership, which had negatively affected profitability before the crisis, has no effect on profitability during the crisis.

The study also found a negative correlation between taxation and profitability prior to the crisis. The annual change of the regional population positively and significantly affects bank profitability, while the growth rate of GDP has no impact on profitability of Swiss banks. In contrast, the structure of interest rates has a positive impact on profitability of banks in Switzerland. Finally, profitability is significantly and positively affected by high capitalization of stock market, mostly prior to the crisis.

Schipper (2013) analyzed the factors that affect the profitability of commercial banks in Slovakia and Poland between 1999 and 2011, and examined whether the global financial crisis had a different effect on profitability. A negative correlation was found between the crisis period and profitability in Slovakia, but almost no such correlation existed in Poland. When analyzing each crisis year alone, no significant effect was found between profitability and the crisis in Poland, but a high significant effect on bank profits was found in Slovakia.

In order to study the factors that affect US banks' profitability during the global financial crisis, Liu (2013) analyzed the impacts of external and internal variables on banks' profitability. The study covered the period between 2007 and 2012 and included 8,677 American banks which were analyzed using fixed effects panel model to determine the significance of the variables. The researcher found that during the period of the financial crisis, the US banks experienced economies of scale. "Investment securities at market value to total assets" and "Deposit to total asset" affect banks profitability. The external variables, such as the HHI, discount rate of the Federal Reserve, and goodwill are determinants of bank profitability as well.

The political crisis of some Middle East countries affected the economic indicators in these countries, and due to the fundamental role of the banking sector in every economy, Sahyouni and Wang (2015) studied how the financial performance of 61 banks from different Arab countries was affected by bank-specific variables and political crisis for the period between 2004 and 2014 using the method of financial ratios analysis. The findings of the research indicate a negative relationship between political crisis and performance of the banks. The results also show that operating efficiency, asset management, bank size, and capital adequacy positively affect the financial performance of the studied banks. However, overheads, asset quality, and credit risk negatively affect this performance. The results do not show a significant relationship between profitability and the ratios of liquidity, capital, deposits, management quality, and cost-to-income.

Azar, Bolbol and Mouradian (2016) analyzed profitability determinants of 39 banks in Lebanon between 2003 and 2014 using panel data least squares and considering fixed and random effects. The results reinforce the fixed effects cross section model and shed light on the heterogeneity of Lebanese banks. The research results showed that 50% of return on average assets (ROAA) variations can be explained by four significant variables which are non-interest income/total assets, cost/income, capital adequacy ratio, and the interest rate spread. In line with the economic theories, the results also showed that the long term impact was higher than the short term one.

Mhanna and Al-Amman (2017) studied the financial performance of Islamic banks in Syria for the period between 2009 and 2015. Bank performance was measured by return on equity (ROE) and return on assets (ROA). The researchers used fixed effects estimator on panel data. The empirical results showed that efficiency has a significant negative effect on ROE and

ROA while size has a significant positive effect on both. Also, at a significance level of 10%, liquidity and capital adequacy significantly affect ROA with no significant effect on the ROE. However, no significant effect was found for crisis and deposits variables on neither the ROE nor the ROA.

4. METHODOLOGY

This section explains the methodology used in this research to study the effect of the Syrian crisis on the profitability of the private banks in Syria by showing the data collection method, the research variables, and the model used to analyze the data.

4.1. Data Collection Method

The data in this research for all bank-specific variables was extracted from the published interim and annual reports of banks; balance sheets and income statements. For the measurement of the Syrian crisis, the number of crisis-related casualties was extracted from statistics of the Syrian Observatory for Human Rights as it is the only entity that calculated all deaths. The number of Syrians who fled the country due to the crisis to settle in other countries as refugees or asylum seekers was extracted from the data of UNHCR and applications of EU asylum seekers. SYP exchange rates against USD during the studied period was extracted from Syrian Pound Today and Syria Stocks (Hassani, 2015).

4.2. Research Variables

Based on the literature review, the variables included in the model are:

4.2.1 Dependent variable: Return on Average Assets (ROAA):

In recent literature, ROAA has become one of the most important ratios for measuring bank profitability. It shows the net profit on each Pound invested in assets, and can be calculated easily by dividing net income by average total assets. A higher ROAA indicates that a bank is earning more money from fewer assets (Schipper, 2013).

The profits of re-evaluation of structural foreign currency position were excluded from net income as they are non-distributable, non-taxable and not generated from the operational banking activities. Having these profits included in the net income results in misleading ratios and all banks will demonstrate profitable statements during most periods of the crisis (Alqadi and Hashem, 2015).

4.2.2. Independent variables:

Capital (CAP): The ratio of equity to total assets is used as a measurement of bank capital. Although capital ratio gives contradictory results regarding its relationship with profitability, a higher capital ratio is expected to have a positive impact on profitability (Dietrich and Wanzenrie, 2010).

Operating Efficiency (OE): The operating efficiency is measured by the ratio of total operating expenses to total operating income. The expected effect of higher cost to income ratio on profitability is negative. (Dietrich and Wanzenrie, 2010).

Deposits (DEP): Banks are heavily leveraged institutions as they finance most of their assets through deposits. Deposits are expected to have a positive effect on profitability as banks supposed to transform these deposits into loans and profitable assets (Ali, 2015).

Liquidity (LTA): Profitability is also affected by liquidity factors. Liquidity is measured by the ratio of total loans to total assets, where liquidity is negatively correlated with this ratio. Liquidity is expected to have a negative effect on profitability which means a positive correlation between LTA and profitability is expected (Rahman et al., 2015).

Bank Size (BS): According to many banking literatures, bank total assets are used as a proxy of bank size. Generally, a positive correlation between bank size and profitability is expected (Asadul Islam et al., 2017)

Asset Quality (NPL): The ratio of non-performing loans (loans that do not generate any payments of principle or interest) to total loans is the measure used to assess bank asset quality. This ratio evaluates the soundness of the bank's loans portfolio. Higher non-performing loans is associated with low quality loan portfolio which is expected to decrease the bank profitability (Asadul Islam et al., 2017)

The Syrian Crisis (CRI): This variable is the macroeconomic factor that is used to measures the severity of the Syrian crisis. This variable is calculated quarterly and considers the following security, social, and economic factors:

- Security factor: The number of battle-related deaths as a factor directly related to the armed conflict;
- Social factor: the number of Syrian refugees and asylum seekers;
- Economic factor: the exchange rate of Syrian pound against US dollar as an indicator of inflation.

Like other financial and political crises, the Syrian crisis is expected to have a negative effect on bank profitability.

4.3. Research Model

Various bank-specific variables in addition to a lagged variable of the Syrian crisis are used in the following profitability regression model:

$$ROAA_{it} = \alpha + \beta_1 CAP_{it} + \beta_2 OE_{it} + \beta_3 DEP_{it} + \beta_4 LTA_{it} + \beta_5 BS_{it} + \beta_6 NPL_{it} + \beta_7 CRI(-1)_t + \epsilon_i$$

Where:

- α represents the intercept.
- β represents the coefficient value.
- ROAA the dependent variable represents profitability of bank i in period t, measured by net income to average total assets.
- CAP represents capital of bank i in period t, measured by total equity to total assets.
- OE represents operating efficiency of bank i in period t, measured by operating expenses to operating income.
- DEP represents deposits of bank i in period t, measured by total deposits to total assets.
- LTA represents liquidity of bank i in period t, measured by loans to total assets.
- BS represents bank size of bank i in period t, measured by the natural logarithm of total asset.
- NPL represents asset quality of bank i in period t, measured by non-performing loans to total loans.
- CRI(-1) represents one period lagged variable of the Syrian crisis.

The regression is estimated through a time-series-cross-section analysis using Generalized Least Square (GLS) estimator.

5. RESULTS AND DISCUSSION

This section contains the analysis and discussion of results of the Syrian crisis effect on the profitability of the country's private banking sector.

5.1. Descriptive Statistics

The descriptive statistics as indicated in Table (1) provides a summary of the research variables; it shows the minimum, maximum, mean and standard deviation of each variable.

Table 1: Descriptive Statistics of All Variables

Variable	Obs	Min	Max	Mean	Std. Dev.
ROAA	448	-0.0870	0.0789	-0.0029	0.0128
CAP	448	0.0119	0.8169	0.1943	0.1699
OE	448	0.0423	25.2994	1.8117	2.3723
DEP	448	0.1508	0.9432	0.7258	0.1618
LTA	448	0.0181	0.7010	0.2426	0.1435
BS	448	22.5484	26.7056	24.8851	0.7834
NPL	448	0.0000	0.7391	0.2728	0.1833
CRI	448	0.0033	0.8133	0.5094	0.2285

Source: Prepared by the Author Using Eviews 10

Most variables show significant inequality and high variability; such variations arise from the differences that exist among the banks incorporated in the study.

5.2. Correlation Analysis

The correlation analysis, as shown in Tables (2), was conducted to examine the strength and direction of the relationship between the independent variables of the model. A minus sign indicates a negative correlation between the variables, while a plus sign implies a positive correlation. Also, when the coefficient of the correlation moves closer to 1 (maximum value), the strength of the relationship increases and vice versa (Yeboah, 2020).

Table 2: Correlation Matrix of the Model's Independent Variables

Variable	CAP	OE	DEP	LTA	BS	NPL	CRI
CAP	1.000						
OE	-0.062	1.000					
DEP	-0.033	0.057	1.000				
LTA	0.041	-0.266	-0.084	1.000			
BS	0.004	0.034	-0.033	-0.531	1.000		
NPL	-0.036	0.328	0.113	-0.344	-0.081	1.000	
CRI	-0.029	0.221	0.023	-0.410	0.426	0.213	1.000

Source: Prepared by the Author Using Eviews 10

With regard to the correlation between the independent variables, only the negative correlation between bank size and loans to assets (-0.531) is relatively moderate. However, it can be said that the extent of association between the remaining variables is relatively low which indicates that there is no multicollinearity in the model.

5.3. Hausman Test

Since this research studies the whole population (all the Syrian private banks), it is recommended to conduct the analysis using fixed effects model as it is more suitable when the entire population is effectively represented by entities of the sample (Calson-Öhman, 2018). Also, it is better to use fixed effects model when each analyzed entity has unique individual characteristics that may have some influence on the variables (Antonopoulos et al., 2017). Consequently, a model of fixed effects estimator is adopted in this thesis.

Hausman Test was conducted to verify and confirm the choice of fixed effects model. This test is designed to determine which estimation model (random or fixed effects) should be conducted in panel data analysis.

The null hypothesis of Hausman Test indicates that the preferred model is random effects; the alternative hypothesis indicates that the preferred model is fixed effects. Thus, a low p-value indicates that the null hypothesis should be rejected and favors the assumption of fixed effects to specify the model (Khalil, 2019). The test results suggests using fixed effects model as the p-value is 0.0117.

5.4. Stationarity Test

Unit root test is applied to check all variables stationarity. In order to avoid spurious relationships between the variables when developing econometric models, stationarity of all variables is one of the prerequisites. A variable is said to be stationary if its mean and variance do not vary over time (Mohamad, 2016).

Unit root test is conducted using the “Augmented Dickey Fuller” test. The test is performed using two methods: the first method considers the individual intercept only, while the second method considers the individual intercept and the trend. All variables are stationary at level or at first difference as shown in table (3). Thus, first difference transformation of non-stationary series is applied.

Table 3: Unit Root Test (Augmented Dickey Fuller)

Variables	Level		1st Difference	
	Individual intercept (p-value)	Individual intercept and trend (p-value)	Individual intercept (p-value)	Individual intercept and trend (p-value)
ROAA	0.0000	0.0000	0.0000	0.0000
CAP	0.0193	0.0344	0.0000	0.0000
OE	0.0000	0.0000	0.0000	0.0000
DEP	0.1827	0.5041	0.0000	0.0000
LTA	0.0000	0.4686	0.0000	0.0000
BS	0.9704	0.1231	0.0000	0.0000
NPL	0.3938	0.9999	0.0000	0.0000
CRI	0.0029	1.0000	0.0000	0.0000

Source: Prepared by the Author Using Eviews 10

5.5. Empirical Results

As previously discussed in the research methodology, the regression is conducted using fixed effects model. The results are shown in Table (4).

Table 4: Results of Profitability Regression

	Fixed Effects Model		
	Coefficient	Std. Error	p-value
Constant	0.0000	0.0009	0.9389
CAP	0.0202	0.0041	0.0000
OE	-0.0036	0.0001	0.0000
DEP	0.0177	0.0035	0.0000
LTA	0.0207	0.0051	0.0001
BS	-0.0013	0.0012	0.2810

	Fixed Effects Model		
	Coefficient	Std. Error	p-value
NPL	-0.0050	0.0023	0.0326
CRI(-1)	-0.0157	0.0027	0.0000
Prob (F-statistic)	0.0000		
R-squared	0.842		
Adjusted R-squared	0.834		
Durbin-Watson	2.016		

Source: Prepared by the Author Using Eviews 10

Bank Size (BS) is found to be insignificant. Table (5) shows the results after removing this variable from the model to check whether removing it might make other variables insignificant. No significant change to the results and all other variables remained significant after removing the insignificant variable.

Table 5: Results of Profitability Regression after Removing (BS) the Insignificant Variable

	Fixed Effects Model		
	Coefficient	Std. Error	p-value
Constant	0.0000	0.0008	0.9602
CAP	0.0200	0.0041	0.0000
OE	-0.0036	0.0001	0.0000
DEP	0.0173	0.0035	0.0000
LTA	0.0232	0.0042	0.0000
NPL	-0.0044	0.0022	0.0464
CRI(-1)	-0.0160	0.0026	0.0000
Prob (F-statistic)	0.0000		
R-squared	0.840		
Adjusted R-squared	0.832		
Durbin-Watson	2.009		

Source: Prepared by the Author Using Eviews 10

To remove cross-section dependence, GLS weights: cross-section SUR was applied. Statistics have remarkably improved after applying the weighted GLS.

The overall regression has strong significance with Prob (F-statistic)=0.000; the table shows that R square of this model is about 84%, that is, about 84 percent of the variation in the dependent variable, ROAA, is explained by the independent variables.

Adjusted R-square registered 83% indicating the percentage of variation that is clarified by the independent variables that significantly affect the dependent variable.

The Durbin Watson statistics value is 2.016 indicating that there is no statistical evidence that the error terms are auto correlated.

All the independent variables have significant effects on the dependent variable except for the bank size. The profitability regression show that following results:

- Bank capital (total equity to total assets) has a positive and significant effect on return on average assets (ROAA) at 1% level. This means that well-capitalized banks report better profitability ratios than banks with low capital ratios.
- The operating efficiency (operating cost to operating income) has a negative and significant effect on return on average assets (ROAA) at 1% level. This result was expected and in line with the previous studies and it means that banks with lower and controlled cost maintained their profitability ratios during the crisis.
- Deposits (total deposits to total assets) has a positive and significant effect on return on average assets (ROAA) at 1% level. This indicates that banks have to attract deposits in order to maintain their profitability ratios.
- Loans to assets has a positive and significant effect on return on average assets (ROAA) at 1% level which means that bank liquidity is negatively correlated with profitability. This result was expected as more liquidity means more non-invested funds.
- Bank size has a negative but insignificant effect on ROAA.
- Asset quality (NPL to gross loans) has a negative and significant effect on return on average assets (ROAA) at 5% level. This result was expected as more non-performing loans means more provisions.
- The lagged variable of the Syrian crisis has a negative and significant effect on return on average assets (ROAA) at 1% level. This was expected in line with the previous literature.

6. CONCLUSIONS

This research studied the effect of the Syrian crisis on the profitability of the private banks in Syria by considering all of the 14 Syrian private banks over the period of 2011 to 2018 which is the crisis most severe period. Using fixed effects estimator on panel data, the results show that bank capital, deposits, and loans to assets have a significantly positive effect on profitability at 1%, while operating efficiency and the Syrian crisis have a significantly negative effect on profitability at 1%. Furthermore, asset quality has a significantly negative effect on profitability at 5%. It is very important to note that unlike many other research papers that use a dummy variable to measure a crisis, this research employed a proxy variable that takes into account social, economic and political factors to give an accurate measure of the severity of the Syrian crisis during the studied period.

The negative effects of the Syrian crisis are briefly outlined in this research, as well as a detailed analysis that explains how the depreciation of the Syrian Pound during the crisis generated an accumulated amount of “unrealized profits”.

The major limitation of this research is the absence of official data for many indicators and macro-economic variables in Syria. Bank ratios were extracted and calculated from each interim and annual report which is a time and effort consuming process.

In line with the findings, and to enhance the banks' profitability during crisis times, the research comes with the recommendations of strengthening the banks' capital and attracting more deposits, as well as increasing the percentage of loans to total assets with a special attention to non-performing loans. The cost to income ratio should be decreased also to achieve better profitability ratios.

Thus, this research extends the understanding of the relationship between profitability of the Syrian private banks and various bank-specific variables in addition to the variable of the Syrian crisis. Therefore, the results can help supervisory authorities and banks management to take important decisions regarding profitability in crisis times.

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