Ayman Abdalmajeed Alsmadi* Mohammad Salem Oudat**

JEL Classification E20, E31, F31, O11 Preliminary statement https://doi.org/10.32910/ep.70.1.2

THE EFFECT OF FOREIGN DIRECT INVESTMENT ON FINANCIAL DEVELOPMENT: EMPIRICAL EVIDENCE FROM BAHRAIN

The aim of this paper is to analyze the relationship between foreign direct investments and financial development in Bahrain. The estimation financial development effects was performed for the period 1978 to 2015, which covers the political conflicts that recently happened in Middle East area (Arab Spring). On the other hand, the paper sought to examine the causality relationship between foreign direct investments and financial development. The study empirically investigates the short and long run equilibrium relationship between the variables by applied co-integration and Autoregressive Distributed Lags Approach (ARDL). The Granger causality test was employed to capture causality relationship. The obtained results show that there is a significant positive relationship between FDI and financial development in short and long run, while, a significant negative relationship between Arab Spring and financial development. However, the results also revealed bidirectional causality relationship between FDI and financial development.

Key words: Foreign Direct Investment, Financial Development, Domestic Credit, Bahrain, Casualty relationship

^{*} A. Abdalmajeed Alsmadi, Ph.D., Associate professor, Al-Zaytoonah University of Jordan (E-mail: Ayman.smadi@zuj.edu.jo).

^{**} M. Salem Oudat, Ph.D., Associate professor, Applied Science University Bahrain (E-mail: mohammad.oudat@yahoo.com).

The paper was received on January 2nd, 2018. It was accepted for publication on September 15th, 2018.

1. Introduction

Bahrain is one of the gulf countries that considered as pioneer in promoting free and open economic policies, most often occupies advanced ratings along free economies parameters being rated the first among regional and Arab countries for the year 2015. Despite the country relies on the oil as one of the main resources for national income which contributes 88.3 % of the total country incomes, yet the government is following deferent diversification policies towards diverse sources of income to reduce the sole dependency on oil as main sources of the country income. Therefore, since the beginning of the seventies the government directed its great effort towards developing other economic sectors among which the manufacturing industries came first, besides banking and finance sectors, tourism, real estate, telecommunication and other sectors. Whereby, the Non-Oil sector has increased contribution to the country GDP.

According to the important role that foreign direct investment plays in the economy growth, the government tries continuously to attract the foreign investments inside the country by following different policies. For instant, Bahrain has the lowest regulations' tax in the region, the free trade zone does not imposed by any restrictions. Foreigner investors can own 100% in more than 95% of Bahrain economic activities, without local partner. Moreover, The Commercial Companies Act was amended in 2015 to remove the requirement of a minimum capital contribution. This applies to foreign companies. For the last few years, Bahrain Government pursuing different efforts to improve the competitiveness of the country in term of FDI attractiveness has proven successful.

In case of the financial sector, Bahrain has stock exchange since 1987 with more than 40 companies listed in the stock exchange. In addition, central Bank of Bahrain reported that in 2015 there are 403 listed licenses for different financial institutions, which contain conventional, Islamic banks, insurance companies and investment firms.

For the last few decades most of what have been written about foreign direct investment is to measure the effectiveness of foreign direct investment on the economic growth or stock markets. Nevertheless, the current paper focused on the influence of foreign direct investment on financial development in Bahrain. In addition, this paper is the first of its kind that examine the effect of Foreign Direct Investment on Financial Development in Bahrain for such the study period. Moreover, this paper has the following hypothesis to be examined; (H_0) there is no long run relationship among the study variables and (H_1) there is a long run relationship among the variables. Also, the autoregressive distributed lags (ARDL) approach was applied to examine short and long run relationships between the variables.

Finally, this paper has been structured as follow; part one includes introduction of the study, part two is an overview of Bahrain foreign direct investment, part three discussed the Domestic Credit Provided by Financial Sector (DC), part four discovered Arab Spring and its effect on economic development, then part five which is very important has discussed the study Theoretical Framework, then part six includes Literature Review, part seven discussed Data and Methodology that applied in this study, part eight shows the Results Discussions and last part is the conclusion of this paper.

2. Bahrain's Foreign Direct Investment

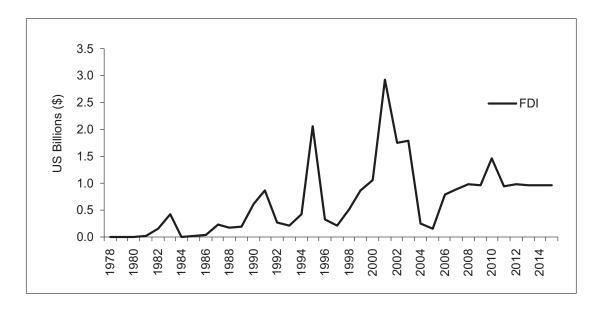
Based on the World Investment Report published in 2017 by UNCTAD, Bahrain sketched different strategies and policies to attract the foreign investors, the country established the Investment Gateway Bahrain for business, permitting the foreigner investors to buy land on Muharraq Island for light industrial and commercial use, it announced two specialized courts for investment and commercial disputes to ensure these disputes will be resolved fairly and quickly, also it changed its Law of Commercial Companies, allowing 100% foreign investors in social and health work, communications and information, quarrying and mining, among others.

According to UNCTAD estimations, Bahrain in 2014 succeeded in attracting FDIs worth 957 million US dollars, which represent around 2.2% of the Arab total for the same year. The country secured a total of \$280 million of new foreign inward investment in 2016 from 40 new companies, the state economic development agency said. According to Bahrain Economic Development Board (EDB) report, showed that the total amount of foreign direct investment (FDI) was double that of 2015, when FDI halt at \$142 million invested by 22 corporations.

Nowadays, Bahrain's investors enjoy an attractive environment investment that offers operations' cost-effective, advanced soft and physical infrastructure as well as the abundance of an experienced bilingual workforce.

Figure 1.

FOREIGN DIRECT INVESTMENT IN BAHRAIN FOR THE DURATION 1978 - 2015



Source: The World Bank, Bahrain Development Indicators databases (2016), available online at: https://data.worldbank.org/country/bahrain

Figure 1 represents Bahrain FDI inflows during the period of 1978 to 2015, the figures shows that FDI reached yearly growth rate 13.7 %. It is obviously that the FDI has been dramatically changed during the different period of time. FDI reached the highest in 2001; however, it's started to decrease slightly in 2002 and 2003. During 2004, FDI sharply decreased which may refer to unrest political in the region (Iraq War). It recovered again to show an increasing in 2010 but it is declined again during Arab Spring which happened in 2011 and Bahrain was one of the countries that have a revelation that time, and then continue to be stable for the last years.

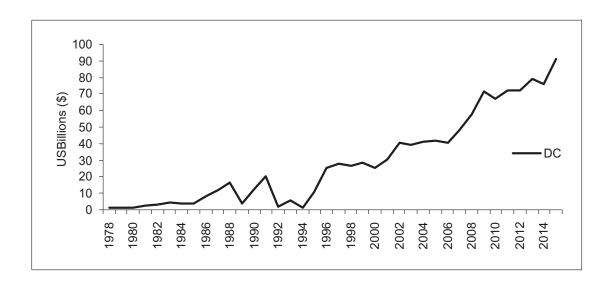
3. Domestic Credit Provided by Financial Sector (DC)

The current study uses the domestic credit provided by financial sector as a proxy of financial development. According to international monitory fund the Domestic Credit provided by the financial sector (DC) contains all credit to dif-

ferent sectors on a gross basis, without government's credit. The financial sector contains deposit money banks and monetary authorities, as well as other financial firms where data are available (including firms that do not accept deposits' transferable but do bear such liabilities as savings and time deposits). for instance of other financial firms are finance and leasing firms, pension funds, money lenders institutions, insurance institutions, and foreign exchange institutions.

Figure 2.

DOMESTIC CREDIT PROVIDED BY FINANCIAL SECTOR (DC) IN BAHRAIN FOR THE DURATION 1978 - 2015



Source: The World Bank, Bahrain Development Indicators databases (2016), available online at: https://data.worldbank.org/country/bahrain

Figure 2 reflects the domestic credit provided by financial sector in Bahrain for the period 1978 to 2015. The figure shows that the DC reached yearly growth rate 14.95%. The percentage started to increase after 1995 as the government has different strategies to open new projects which parallel continuously increasing in GDP. On other hand, the government also adopted various policies to attract foreign direct investment which may has influenced the DC. The DC is increased to reach the highest in 2015 by 90.89472607 % of GDP.

4. Arab Spring

Arab Spring is a series of pro-democracy uprisings that enclosed different Middle East countries, such as Tunisia, Egypt Syria, Libya, Yemen and Bahrain. The events in these nations have been started in the spring of 2011, which led to the name. However, the social, political and economy effect of these popular uprisings remains has an effects on these countries, years after many of them ended. Moreover, the Arab Spring has an impacted on a several countries around as neighbors of these countries like Jordan which directly affected by Arab Spring especially that happened in Syria.

Bahrain was one of the countries that have uprisings in 2011 against their regime. The Arab Spring has essentially affected the country. However, doing so may have destroyed the society's sense of a single community and the dozens of protests hurt Bahrain's economy. There has been a direct loss to the economy. The chairman of the Bahrain Chamber of Commerce and Industry estimates that Bahrain has lost over \$2 billion. The GDP and public finance have decreased \$391 million and \$690 million, respectively. Eventually, Arab Spring created uncertainty in Bahrain's economy. In 2010, Bahrain had an openness economy. Its economy was extremely high open to trade, inflows and outflows of international investments. After the uprisings in 2011, Bahrain's degree of openness decreased because other countries did not want to interact with them.

The current paper takes the Arab Spring in its account for examining the impact of the Arab Spring on the FDI in Bahrain as a dummy variable.

5. Theoretical Framework

Foreign Direct Investment (FDI) is one of important elements in the economic development of a country at any stage of development. Also it contributes to the sustainable economic growth and social and economic development. FDI afford essential investments in economic growth and development of technology when local savings cannot provide them. Financial development, also referred to as financial sector development, includes the development in the banking sector and capital market sector (Rogmans and Ebbers, 2013). The argued of the absence of developed domestic financial system could limit the ability of economy to take a benefit from FDI. However, (Alfaro *et al.* 2010; Kaur *et al.* 2013) claimed that developed financial system assists host countries to attract significant FDI and enjoy the FDI benefits through the provision of financial support, and increase loans to

the private sector, good foreign currency services and optimal allocation of capital, especially in emerging economies. Moreover, (Zakaria, 2007, Abzari *et al.*, 2011; Saibu 2012) argued that there is a positive significant relationship between FDI and banking sectors, and further they revealed a direct causality relationship running from FDI to banking sector and financial system development. In addition, Klein et al. (2000) confirmed that the number of FDI projects conducted by Japanese companies in the US economy has a positive correlation with the financial sectors especially banking sector.

Accordingly, when the country has a developed financial system with effective attracting foreign investment regime, it helps the country to attract the foreign investments in different sectors. However, the rising of foreign investments in the country will offer more cash inflows which will directly affect the deposits in existence banks and other financial institutions. Consequently, the continuously rising in deposits enhances the financial institutions to provide more domestic credit to the individuals, family, private sectors and public sectors. That argument confirmed by the studies of (Girma *et al.*, 2008; Hericourt and Poncet 2009) whom found a causality relationship running from FDI inflows to domestic credit finance provided by banking and financial institutions sector.

6. Literature Review

Different theories have illustrated the relationship between the macroeconomic variables and financial development. In particular, the relationship between financial development and economic growth was highlighted by Schumpeter (1911). Meanwhile, the relationship between stock market and the macroeconomic variables was explained by Fama (1981), whereas various other studies were highlighted about this relationship. Most previous studies rely on the Arbitrage Pricing Theory (APT) because APT links the capital market with the macroeconomic variables. Meanwhile, to clarify the relationship between the macroeconomic variables and the credit market, the finance-growth nexus theory is employed in the current study.

The most previous studies tackled the relationship between the foreign direct investment and economic growth for example; Carkovic and Levine (2002) examined the relationship between FDI and economic growth for 72 countries. Their findings indicated that for both developed and developing economies FDI did not have independent influence on economic growth. On the other hand, Campos and Kinoshita (2002) tried to reassess the impacts of FDI on economic growth for 25 Central and Eastern European and former Soviet Union economies. Their findings indicated that FDI has a positive and significant relationship between FDI and eco-

nomic growth of all selected countries. In addition, (Bekaert *et al.* (2005), Levine *et al.* (2000), Levine and Zervos (1998) and others) examined the effects of FDI on economic growth.

Furthermore, there are different empirical and theoretical studies examined the impact of financial development on the economic growth in general. Beck and Levine (2004), Minea and Villieu (2010), Narayan and Narayan (2013) and recently Mishra and Narayan (2015) realized that there is a relationship between financial development and economic growth. Accordingly, the relationship between foreign direct investments and economic growth, some scholars such as; ((Ünalmiş, 2002; Hansen & Rand, 2006; Yucel, 2009) found there is impact of FDI on economic growth. However, a part of previous studies focused more on the relationships between macroeconomic variables and financial development using different methodology approaches such as ADRL, VCEM and VAR, Wong et al. (2006), Ratanapakorn and Sharma (2007), Shahaz (2008), Dhiman and sharma (2013). On other hand, the previous studies more concerned examining the impact of foreign direct investment on the stock markets such as, Yartey (2008), Adam and Tweneboah (2008b) and Agbloyor, Abpor, Adjasi and Yawson (2013). Alfaro et al. (2004) and Alfaro et al. (2010) stated that FDI is a stronger contribution element towards growth in developed financial market. In addition, Adam and Tweneboah (2009) find there is a long-run relationship between FDI and the stock market development. In addition, Estrin and Uvalic (2016) by using dataset covers five countries (Albania, Bosnia and Herzegovina, Croatia, Macedonia and Serbia) for the period 2002-2012, the results of this work has important policy implications; in order to accelerate economic development, Western Balkan policy makers may need to implement more effective economic policies. Jovancevic (2017) in his paper which aims to is to analyze and compare foreign investment trends in the countries of the last wave of accession to the European Union for the period 1989-2006. The results of this paper show that both flows suggest that there was a wide difference in efficiency of those flows. In addition, the national investment policy might have considerable impact on the real growth of the economy. Hunya and Geishecker (2005) in their study found that FDI in non-manufacturing sectors tends to be of a horizontal type, while this is less the case in manufacturing. With a modest pace of convergence towards the level of GDP per head in the EU-15, non-manufacturing FDI is likely to remain constant or even decline, except in the Czech Republic, where non-manufacturing FDI would grow at a similar rate as in manufacturing. With stronger convergence, FDI in non-manufacturing is likely to show more robust growth. Further econometric analysis suggests that FDI is a significant determinant of the skill composition in the new EU members and is biased against skilled manual workers (i.e. FDI results in more employment of high-skill non-manual workers and low-skill workers). The magnitude of this effect is, however, modest and partly offset by other factors.

However, there is a lack of studies that measure the relationship between foreign direct investments on financial development. For example, Al Nasser and Soydemir (2010) employed Granger causality tests between FDI and financial development variables for Latin American countries. They displayed a unidirectional relationship from banking sector to FDI.

Essentially, an increase in FDI net inflows would clearly have a significant positive influence on the most economic activities of a country, which leads to raise available funds in the economy. Consequently, the financial intermediation through available banking system and financial markets would improve Desai et al. (2006) and Henry (2000). Furthermore, it is probable that corporations which are involved in FDI are to be listed on domestic stock market. That will improve the banking system performance as these corporations will deal with the local banks whether by depositing their money or borrowing from these banks.

In case of Bahrain, Gharaibeh (2015) determined some factors that affect the FDI in Bahrain, he found that the export value index, market size represented by GDP growth, and exchange rates have a relationships with FDI. Moreover, (Omran & Bolbol 2003) found that there is a positive and significant relationship between FDI and economic growth in Bahrain. However, Bahrain was successfully able to implement the different advanced economies. It creates a friendly business environment with high banking and finance system performance, soft and attracts regulations, and low barriers front of foreign investment. However, there is a lack of literature examine the relationship between FDI and financial development in Bahrain.

7. Data and Methodology

To accomplish the current study's' objective which is examine the short and long run relationships between foreign direct investment and domestic credit provided by financial sector in Bahrain. The current study uses secondary data, the time series annually data spanning from 1978 to 2015, comprising 38 year it will be applied. The required data related to FDI and DC have been collected from the World Bank. However, In order to analyze the collected data the statistical tools such as the Augmented Dicky Fuller (ADF) type unit root test was employed to check the stationary among the variables. In addition, the bounds F-statistic test was used to examine the co-integration relationship between FDI and DC. The autoregressive distributed lags (ARDL) approach was applied to examine short and long run relationships between the variables. The main reason to use ARDL of Pesaran et al. (2001) in the current paper is that, the sample size is small, as other

models such as VAR and VECM need big samples size. Moreover, it can be used whither the variables are stationary at 0, I or mixture unlike other models such as VAR can accept only stationary at 0.

The ARDL approach can be framed as in Equation. (1) and (2):

$$\Delta FDI_{t} = \beta_{1} + \delta_{11}LFDI_{t-1} + \delta_{12}LDC_{t-1} + \sum_{t=s}^{h} v_{11} \Delta LFDI_{t-s} + \sum_{t=s}^{h} v_{12} \Delta LDC_{t-s} - \tau_{1}ecm_{t-1} + \epsilon_{1t}$$
(1)

Here β_i (i= 1) represents the intercept terms. ν_i (i= 1) indicates the short-run coefficient. τ_i (i= 1) indicates the coefficient of error correction terms, i,e., (ecm_{t-1}) ϵ_{it} (i= 1) stand for the error terms. h, donates the lag length selected using t which represents the lag order. δ_i (i= 1) denotes the long-run coefficient.

8. Results Discussions

The results of the final analysis from the unit root tests, lag length criterion, F- Bound testing of co-integration, equilibrium analysis and the Granger causality test have been discussed in the following sections.

8.1. Stationarity Test

The following Table (1) illustrates the results of ADF unit root tests. The results shows that the FDI and DC for Bahrain are non-stationary at levels while stationary at their first differences level. That indicate both variables are integrated for the same order, i.e. I(1). Accordingly, the bounds F-statistics would be applied in the next step to test the co-integration between the variables.

Table 1.

STATIONARY TESTS RESULTS FROM ADF TEST

Integration	Variables	ADF	
$I\left(0\right)$	LFDI	-2.18	
	LDC	-2.31	
I (0)	ΔLFDI	-7.00***	
	ΔLDC	-3.97**	

Notes: (1) ***, **, * denote significance level of 1%, 5%, 10%, respectively.

- (2) ADF, H_0 = series has a unit root.
- (3) Critical values for ADF are: -4.24 (1%), -3.54 (5%), -3.20 (10%).

The results of ADF test, shows that both variables have a unit root at level I(0), while they have stationary at first difference I(1). Consequently, the appropriate lag length selection should be the following step, followed by the testing of the co-integration among the both variables. After that, testing the short- and long-run relationships by using ARDL approach will be applied with carrying the co-integration. Lastly, the Granger causality test is applied for finding the causality relationships between the foreign direct investment and Bahrain's financial development.

8.2. Lag Length Criterion Results

Table 2 indicates the findings of the lag length's selection test for the models namely, based on the unrestricted VAR model. As indicated by the results, the optimal lag length is 2 lags in accordance to the values of LR, FPE, AIC, SC and the HQ criteria for the three models.

Table 2.

LAG LENGTH SELECTION FOR FDI AND DC VARIABLES

Model	Lag	LogL	LR	FPE	AIC	SC	HQ
	0	-50.47	NA	1.66e-11	3.55	4.00	3.71
D.C.	1	212.09	355.23	1.49e-15	-6.00	-1.06	-4.32
DC	2	405.64	148.00*	3.77e-17*	-11.50*	-2.08*	-8.29*

Notes: (1) (*) indicates the lag order selected by the criterion for each test at 5% level.

LR: sequential modified LR test statistic (each test at 5% level), FPE: Final prediction error, AIC: Akaike information criterion, SC: Schwarz information criterion, HQ: Hannan-Quinn information criterion.

By applying the unit root test the study confirms that both variables are stationary at first differences I(1). This means that there is integration for the variables and conducted the selected optimal lag length. If the situation is such, the co-integration test must be employed to determine the co-integration status of the variables.

8.3. F- Bound Testing of Co-integration Result

According to Pesaran's (2001) the co-integration test employs to discover the existence of the long-run relationships among the variables by using F-bound approach.

Table 3 represents the F-bond test of cointegration, the results shows that both variables are co-integrated. The outcomes indicate that there is a long-term relationship exists among the variables of LDC and LFDI with the calculated F-statistical values above the upper critical bound values at statistical significance of 5% and 1%, respectively. In other words, the null hypothesis (H_0) which states that there is no long run relationship among the variables is rejected. While (H_1) is accepted since a long run relationship among the variables does exist.

Table 3.

F- BOUND TESTING OF CO-INTEGRATION

LDC = f (LFDI)					
1% significance level		5% significance level		10% significance level	
I(0)	<i>I</i> (1)	<i>I</i> (0)	<i>I</i> (1)	I(0)	<i>I</i> (1)
3.84	5.68	2.75	4.20	2.30	3.60
OLS Bound F-statistics values:					
Model		Calculated F-statistics		Decision	
LDC		4.07**		Co-integration	
LFDI		5.60***		Co-integration	

Notes: (1) ***, **, and * indicate significance at 1%, 5 %, and 10% significance level, respectively. (2) The critical value bounds are from Narayan's (2005) table (Table Case III: Unrestricted intercept and no trend; pg.1988).

8.4. Equilibrium Analysis Results

In order to analyses the short and long run equilibrium relationships between the variables the ARDL approach employed in this study.

The long-run table indicates that there is a positive relationship between domestic credit provided by financial sector (DC) and FDI. On the other hand, the short-run results show also appositive relationship between DC and FDI, but D₁ shows a negative impact on the variable DC. Which means that the Arab Spring has been adverse affected the Bahrain domestic credit provided by financial sector, that means Bahrain does not far from the middle east countries who effected by Arab Spring. Then, for the DC model, the estimated lagged error correction term ecm_{t-1} indicates a negative sign with statistical significance, with a coefficient value of -0.59. This implies an existence of an adjustment mechanism, which causes the domestic credit to be pushed back to the equilibrium; in particular, it returned 59 % of the past year's disequilibrium to the long-run equilibrium in the present year. The findings are constant with other studies such as, Ahmad et al. (2015) and Oudat et al. (2015).

Table 4.

THE LONG-RUN COEFFICIENT FOR LDC $_{\!\scriptscriptstyle T}$ MODEL

$LDC_{t} = f(LFDI_{t})$					
Variables	Coefficients	Standard error	T- ratios	P-values	
С	6.05***	2.03	2.97	0.00	
LFDI	1.77**	0.07	2.40	0.02	

THE SHORT-RUN COEFFICIENT AND $\mathrm{ECM}_{\scriptscriptstyle{\mathrm{T}},\mathrm{I}}$ FOR $\mathrm{LDC}_{\scriptscriptstyle{\mathrm{T}}}$ MODEL

LDC = f(LFDI & D1)

The selection of ARDL (1, 1 & 0) approach is based on AIC.

Variables	Coefficients	Standard error	T- ratios	P-values
С	10.66***	3.86	2.75	0.01
ΔLDC_{t-1}	-0.26	0.20	-1.27	0.21
ΔLFDI	0.003**	0.001	2.11	0.05
$\Delta D1_{t}$	-0.05*	0.03	-1.77	0.09
ECM _{t-1}	-0.59**	0.13	-4.26	0.00

Diagnostic test: χ^2 Serial Correlation= (0.70); χ^2 Ramsey Reset = (0.45); χ^2 Heteroskedasticity = (0.44); χ^2 Normality = (0.64); χ^2 Ramsey Reset = (0.45); χ^2 Heteroskedasticity = (0.45); χ^2 Normality = (0.64); χ^2 Ramsey Reset = (0.45); χ^2 Heteroskedasticity = (0.45); χ^2 Normality = (0.64); χ^2 Ramsey Reset = (0.45); χ^2 Heteroskedasticity = (0.45); χ^2 Normality = (0.64); χ^2 Ramsey Reset = (0.45); χ^2 Heteroskedasticity = (0.45); χ^2 Normality = (0.64); χ^2 Ramsey Reset = (0.45); χ^2 Heteroskedasticity = (0.45); χ^2 Normality = (0.64); χ^2 Ramsey Reset = (0.45); χ^2 Heteroskedasticity = (0.45); χ^2 Normality = (0.64); χ^2 Ramsey Reset = (0.45); χ^2 Heteroskedasticity = (0.45); χ^2 Normality = (0.64); χ^2 Ramsey Reset = (0.45); χ^2 Ramsey Reset = (0.45); χ^2 Heteroskedasticity = (0.45); χ^2 Ramsey Reset = (0.45); χ^2 Heteroskedasticity = (0.45); χ^2 Ramsey Reset = (0.45); χ^2 Heteroskedasticity = (0.45); χ^2 Ramsey Reset = (0.45); χ^2 Ramsey Ramsey Reset = (0.45); χ^2 Ramsey Rams

Notes: (1) Figures in brackets denote the P-values of the chi-square (χ^2). (2) AIC denotes the Akaike Information Criterion that calculates the lag length and orders. (3) The following variables have been investigated: Logarithm of Domestic Credit (LDC), Logarithm of Foreign Direct Investment (LFDI) and the Arab Spring (D1)

8.5. Causality Results

In order to determine the relationships' direction between variables DC and FDI the Granger causality test employed for current study. Moreover, the Granger causality test can also be employed to ascertain which variable that has the leading power over the other.

Table 5.

CAUSALITY ANALYSIS FOR THE DC MODEL

Causality Direction	F-Statistic	P-value	Causality Decision
$\Delta LDC_{t} \rightarrow \Delta LFDI_{t}$	3.16462	0.0848*	
$\Delta LFDI_{t} \rightarrow \Delta LDC_{t}$	3.24215	0.0812*	Bidirectional Causality

Note: (1) The $(\rightarrow, \leftrightarrow \& \ne)$ represent the unidirectional, bidirectional and no Granger causality respectively. (2) The following variables have been investigated: Logarithm of Domestic Credit (LDC) and Logarithm of Foreign Direct Investment (LFDI).

The results of the Granger causality analysis for the model of DC are presented in Table 6.5. As can be seen from the table, DC Granger causes the FDI. Moreover, the FDI granger causes the DC. That means there is bidirectional causality, and both have the leading power towards each other.

9. Conclusion

The empirical current paper examined the relationship between foreign direct investment and financial development presented by domestic credit provided by financial sector in Bahrain. The current study uses secondary data, the time series annually data spanning from 1978 to 2015, comprising 38 year it will be applied. The required data related to FDI and DC has been collected from the World Bank. However, In order to analyze the collected data the statistical tools such as the Augmented Dicky Fuller (ADF) type unit root test was employed to check the stationary among the variables. In addition, the bounds F-statistic test was used to examine the co-integration relationship between FDI and DC. The autoregressive distributed lags (ARDL) approach was applied to examine short and long run relationships between the variables. In addition, the paper examined the impact of Arab Spring on the financial development in Bahrain. The findings affirm that there is a significant positive relationship between FDI and DC in Bahrain in short and long run. Meanwhile, there is a significant negative relationship between Arab Spring and financial development. In addition, the findings also found that the FDI granger causes the DC, also the FDI granger causes. The findings suggest that Bahrain should keep adopt new strategies to attract the foreign direct investment in order to enhance the financial development. However, the country has to take a forward steps regarding to the political situations around to reduce the adverse impact on its financial development. Moreover, the results of the current paper is confirmed with some previous studies such as; Mohammad (2017), Choong and Lim (2009), Hosny (2011), Gungor and Ringim (2017), Yilmaz and Dan Gavriletea (2018) and Lee and Chang (2009).

Further studies could examine the relationships between financial development and other macroeconomic variables that have not been explored before. Another studies could be conducted in the future on the impact of foreign direct investment on the Islamic banks in Bahrain as the country is one of the first countries established Islamic banking system in the region.

References:

- Abzari, M., Zarei, F., & Esfahani, S. S., 2011, 'Analysing the link between financial development and foreign direct investment among D-8 group of countries', *International Journal of Economics and Finance*, 3(6), 148-156.
- Adam, A. M., & Tweneboah, G., 2008, 'Foreign direct investment (FDI) and stock market development: Ghana evidence', *MPRA Paper [online*]. Available at: https://mpra.ub.uni-muenchen.de/11261/ [Accessed 07 May 2018].
- Agbloyor, E. K., Abpor, J., Adjasi, C. K. D., & Yawson, A., 2013, 'Exploring the causality links between financial markets and forging direct investment in Africa', *Research in International Business and Finance*, 28, 118-134.
- Ahmad, N., Yazis, M., & Oudat, M. S. 2015, 'Analysing long-run and short-run relationship between macroeconomic variables and Murabaha to the purchase-order: Evidence from Jordanian Islamic Bank'. *International Journal of Economics and Finance*. 7(2), 168-177. ISSN 1916-971X. E-ISSN 1916-9728.
- Al Nasser, O. M., & G. Soydemir, 2010, 'Domestic and International Determinants of Foreign Direct Investment in Latin America', FMA Annual Meeting, New York, USA.
- Alfaro, L., Chanda, A., Kalemli-Ozcan, S. and Sayek, S. (2010), 'Does foreign direct investment promote growth? Exploring the role of financial markets on linkages', *Journal of Development Economics*, 91, 242-256. Available at: http://dx.doi.org/10.1016/j.jdeveco.2009.09.004
- Alfaro, L., Chanda, A., Kalemli-Ozcan, S. and Sayek, S., 2004, 'FDI and Economic Growth: The role of local financial markets', *Journal of International Economics*, 64, 89-112. Available at: http://dx.doi.org/10.1016/S0022-1996(03)00081-3_
- Beck, T., & Levine, R., 2004, 'Stock markets, banks, and growth: Panel evidence', *Journal of Banking & Finance*, 28 (2004), 423–442.
- Bekaert, G., Harvey, C. R., & C. Lundblad, 2005, 'Does financial liberalization spur growth?', *Journal of Financial Economics*, 77(1), 3-55.

- Campos, N. F. and Kinoshita, Y., 2002, 'Foreign Direct Investment as Technology Transferred: Some Panel Evidence from the Transition Economies', Center for Economic Policy Research. Discussion Paper No 3417
- Carcovic M. and Levine R., 2002, 'Does foreign direct investment accelerate economic growth?', Department of Business Finance, University of Minessota, Working paper Series Paper
- Choong, C and Lim, K (2009), Foreign direct investment, financial development, and economic growth: the case of Malaysia. *Macroeconomics and Finance in Emerging Market Economies Analysis*, 29, 70-78.
- Dhiman, R., & Sharma, P., 2013, 'Impact of Flow of FDI on Indian capital market', *European Journal of Business and Management*, 5(9), 75-80.
- Ester, S., Uvalic, M. (2016). Foreign Direct Investment in the Western Balkans: What role has it played during transition?. *Comparative Economic Studies*, pp. 1-29.
- Fama, E. F. 1981, 'Stock Return, Real Activity, Inflation and Money'. *The American Economic Review*, 71. (4), 45-565.
- Gharaibeh, A., M., O., 2015, 'The determinants of foreign direct investment-empirical evidence from Bahrain', *International Journal of Business and Social Science*, 6 (8), 94-106.
- Girma, S., Gong, Y., & Gorg, H., 2008, 'Foreign direct investment, access to finance and innovation activity in Chinese enterprises', *The World Bank Economic Review*, 22(2), 367-382.
- Gungor, H and Ringim, S (2017), Linkage between Foreign Direct Investment, Domestic Investment and Economic Growth: Evidence from Nigeria. *International Journal of Economics and Financial Issues*, 7(3), 97-104.
- Hansen, H., & Rand, J., 2006, 'On the Causal links between FDI and growth in developing countries', *The World Economy*, 29 (1), 21-41.
- Henry, P.B., 2000, 'Do Stock market liberalizations cause investment booms?', *Journal of Financial Economics*, 50, 301-334. Available at: http://dx.doi.org/10.1016/S0304-405X(00)00073-8
- Hericourt, J., & Poncet, S., 2009, 'FDI and credit constraints: Firm-level evidence from China', *Economic Systems*, 33(1), 1-21.
- Hosny, A, S. (2011), financial development and economic growth in Egypt. Journal *Macroeconomics and Finance in Emerging Market Economies* Volume 5, 2012 Issue 1.
- Jovancevic, R. (2007). The Impact of Foreign Investments Flows on Croatian Economy A Comparative Analysis. *Ekonomski pregled*, 58 (12) 826-850.
- Kaur, M., Yadav, S.S., & Gautam, V., 2013, 'Financial system development and foreign direct investment: A panel study for BRICS countries', *Global Business Review*, 14(4), 729-742
- Klein, M.W., Peek, J. & Rosengren, E., 2000, 'Troubled banks, impaired foreign direct investment: The role of relative access to credit', *National Bureau of Economic Research Working Paper Series*, Cambridge, M. A, 1-34

- Lee, C and Chang, C. (2009), FDI, financial development, and economic growth: international evidence. *Journal of Applied Economics* Volume 12, Issue 2, 249-271.
- Levine, R., & S. Zervos, 1998, 'Stock markets, banks, and economic growth', *American Economic Review*, 88(3), 537-558.
- Levine, R., N. Loayza, & T. Beck, 2000, 'Financial intermediation and growth: Causality and causes', *Journal of Monetary Economics*, 46(1), 31-77.
- Minea, A., & Villieu, P. 2010, 'Financial development, institutional quality and maximizing-growth trade-off in government finance', *Economic Modelling*, 27, 324-335.
- Mishra, S., & Narayan, P., K, 2015, 'A nonparametric model of financial system and economic growth', *International Review of Financial Analysis*, 39, 175-191.
- Mohammad (2017) Analysing the Short-run and Long-run Relationships between Macroeconomic Variables and Financial Development in Jordan From 1978-2013. *J Glob Econ* 5: 253.
- Omran, M., & Bolbol, A., 2003, 'Foreign direct investment, financial development, and economic growth: Evidence from the Arab Countries', *Review of Middle East Economics and Finance*, 1 (3), 231–249.
- Oudat, M. S., Ahmed, N., & Yazis, M. (2015), 'Examining causality relationships among energy consumption, economic growth and Islamic banking system performance in Jordan', *International Journal of Economics and Finance*, 7(6), 116-125.
- Pesaran, M., Shin, Y., & Smith, R., 2001, 'Bonds testing approach to the analysis of level relationships', *Journal of Applied Econometrics*, 16 (3), 289-326.
- Rogmans, T., & Ebbers, H., 2013, 'The determinants of foreign direct investment in the Middle East North Africa region', *International Journal of Emerging Markets*, 8(3), 240-257
- Saibu, M.O., 2012, 'An analysis of causal nexus between foreign direct investment, exchange rate and financial market development in Nigeria (1970 to 2009)', *African Journal of Economic and Sustainable Development*, 1(1), 95-102.
- Schumpeter, J. A. 1911, 'Theorie der Wirrtschaftlichen, Entwicklung [The Theory of Economic Development]', Leipzig: Dunker and Humblot, 1912; translated by Redevers Opie (Cambridge, Massachusetts: Harvard University Press, 1934).
- Shahaz, M., Ahmed, N., & Ali, L., 2008, 'Stock market development and economic growth: ARDL causality in Pakistan', *International Research Journal of Finance and Economics*, 14(2008), 182-195.
- Ünalmiş, D., 2002, 'The Causality between financial development and economic growth', the case of turkey, research department, central bank of the Republic of Turkey, 06100, Ankara.
- Wong, W. -K., Khan, H. & Du, J., 2006, 'Do Money and interest rates matter for stock returns? An Econometric Study of Singapore and USA', *The Singapore Economic Review*, 51(1), 31–51.
- Yartey, C. A., 2008, 'the determinants of stock market development in emerging economies: Is South Africa Different?' IMF Working Paper, 08/32. Washington DC:

- International Monetary Fund. Available at: file:///C:/Users/Mohammad/Downloads/_wp0832.pdf [Accessed 17 December 2017].
- Yilmaz, B and Dan Gavriletea, M. (2018), Foreign Direct Investment Inflows and Financial Development in Central and Eastern European Union Countries: A Panel Cointegration and Causality. *Int. J. Financial Stud.* 6, 55.
- Yucel, F., 2009, 'Causal Relationships between financial development, trade openness and economic growth: The case of Turkey', *Journal of Social Sciences*, 5(1), 33-42.
- Zakaria, Z., 2007, 'The causality relationship between financial development and foreign direct investment', *Jurnal Kemanusiaan bil*, 10(1), 1-23.

UTJECAJ IZRAVNIH STRANIH INVESTICIJA NA FINANCIJSKI RAZVOJ: EMPIRIJSKI DOKAZ IZ BAHREINA

Sažetak

Cilj je ovog rada analizirati odnos izravnih stranih ulaganja i financijskog razvoja u Bahreinu. Procjena učinaka na financijski razvoj provedena je za razdoblje od 1978. do 2015. godine, koja obuhvaća političke sukobe koji su se nedavno dogodili na području Bliskog istoka (Arapsko proljeće). S druge strane, rad je nastojao ispitati uzročni odnos između izravnih stranih ulaganja i financijskog razvoja. Rad empirijski istražuje kratkotrajni i dugoročni odnos ravnoteže između varijabli primjenom kointegracijskog i ARDL pristupa. Grangerov test uzročnosti primijenjen je kako bi se otkrio uzročni odnos. Rezultati pokazuju da postoji značajan pozitivan odnos između izravnih stranih ulaganja i financijskog razvoja u kratkom i dugom roku, ali značajan negativan odnos između Arapskog proljeća i financijskog razvoja. Međutim, rezultati također upućuju na dvosmjerni uzročni odnos između izravnih stranih ulaganja i financijskog razvoja.

Ključne riječi: izravna strana ulaganja, financijski razvoj, domaći krediti, Bahrein, uzročni odnos