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"The relationship between FDI, GDP and Non-Oil exports in KSA 1970-2019: A practical manual from (ARDL, VECM) and Causality Approach with Toda-Yamamoto (1995): Best Implementation Strategies"

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Abstract:

The primary goals of this research areto analyze the dynamic causal relationships between FDI, GDP and Non-Oil exprts in Saudi Arabia, a practical manual for ARDL, VECM and Toda-Yamamoto Causality. And to recommend strategic ways forward that will further advance Saudi Arabia's economy. Foreign direct investment is identified as the major tool for the movement of international capital. Thus, the study has employed a review research to examine the relationship between FDI, GDP and Non-Oil exports in KSA using A Fresh look from Combine ARDL and Causality Approach with Toda-Yamamoto (1995). The results showed that the coefficient of ECT is estimated as -0.88, it is negative and statistically significant as expected. This result indicates that 88% of disequilibrium is corrected in one year. Also, we conclude that for FDI and GDP there is an independent causal relationship between them. Thus, neither is there a causal effect flowing from GDP to inflow of FDI nor is there a causal effect moving from inflow of FDI to GDP at 5% level of significance. And there is a one-way causal relationship between foreign direct investment and non-oil exports. Finally, there is a bidirectional causal effect between Non-Oil Exports and GDP in KSA. Thus, at 5% level of significance, Non-Oil Exports has a causal effect on GDP. The findings are important for Saudi economy policy makers to undertake the effective policies that can promote and lead FDI to enhance economic growth in the country. All in all, FDI contributes a large amount of the Saudi Arabia's economy and foreign firms have a significant impact on the general Gross Domestic Product as they contribute a massive 34 % of the total GDP.

Keywords:

FDI, GDP, Non-oil exports, VECM, ARDL, Toda-Yamamoto (1995) Causality Approach

1- Introduction:

In recent years, FDI flows to Saudi Arabia have followed a downward trend, due to political factors and lower oil prices. Thanks to the economic diversification and new projects outside oil and gas sector, FDI inflows recovered. According to UNCTAD's World Investment Report 2019, FDI flows increased by more than 120% between 2017 and 2018, reaching 3.2 billion. This is mainly due by the fact that the country opened four more industries to FDI (recruitment and employment services, real estate brokerage, audiovisual and media services, and land transport services). The stock of FDI rose slightly (+ 1.4%) and reached USD 230 billion in 2018 (29.5% of GDP), by far the highest number among Arab countries. The United Arab Emirates, the United States, France, Singapore, Japan, Kuwait and Malaysia were the main investors in Saudi Arabia in 2017. The investments are mainly oriented towards the chemical industry, real estate, tourism, fossil fuels, automobiles and machinery.

The relationship between FDI and economic growth, both in the developed and developing countries, is still a subject of vigorous research. Empirically, FDI inflows have been recognized as an important source of economic growth in a long run. Many studies have confirmed the positive relationship between FDI inflows and economic performance of the host countries. As the neoclassical model theoretically suggests, FDI inflows play a very important role in economic growth by enhancing efficiency of investment, transferring various technologies to host countries (Romer, 1986), diversifying productive base, increasing the productive capacity, helping to diversify income sources, creating new job opportunities, and improving quality and productivity of the rest of factors of production.

Foreign direct investment (FDI) may term as an investment by an investor or enterprises in another enterprises or equivalent in order to get voting power or control by other means outside their geographical boundaries with the target to achieve the investment share and to maximize return. Such an investment not only involves the transmission of fund but also the allocation of physical funds, procedure of manufacturing, decision-making and marketing proficiency, product promotion and corporate practice with the objective to earn profit.

The Saudi government maintained its economic growth throughout 2015 by investing in development projects and continuing structural and regulatory reforms. These reforms focused on attaining economic growth sustained through a diversified production base and varying the types of goods and services exported, in addition to expanding the non-oil sector's contributions. Saudi Arabia's real GDP increased by 3.5 percent to a little over SAR 2,520 billion in 2015 based on the 2010 constant prices, which is comparable to the increase of 3.6 percent in 2014. In 2015, the GDP of the oil sector grew by 4.0 percent to just over SAR 1,085 billion, and the overall GDP of the non-oil sector rose by slightly more than 3 percent to almost SAR 1,415 billion. In 2015, the growth rate of the non-oil private sector GDP increased by 3.4 percent to



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almost SAR 990 billion, while that of the non-oil government sector increased 2.5 percent to nearly SAR 425 billion (SAMA, 2016).

Several researchers which include to same study, while some studies had focused attention on the relationship between non-oil export and economic growth these include Ali Shah et.al (2015), Abogan et.al (2014), Kalu and Agodi (2014) had sought to examine the effect of non-oil exports on GDP. It is important therefore to contribute to this area by investigating the non-oil export with FDI on the growth of KSA economy and to offer appropriate suggestions based on the findings of the study using A practical manual for ARDL, VECM and Toda-Yamamoto Causality. Therefore, the primary goals of this research areto analyze the dynamic causal relationships between FDI, GDP and Non-Oil exprts in Saudi Arabia, and to recommend strategic ways forward that will further advance Saudi Arabia's economy.

1.1 Theories of Foreign Direct Investment and Growth:

According to the endogenous growth theory, the main determinants of economic growth include factors such as economies of scale, increasing returns or induced technological changes in the production process. Romer (1990) and Grossman and Helpman (1991) developed a growth model explaining the relationship between FDI and economic growth within the endogenous growth theory. In this model, technological advancement is assumed to be the main driving force of economic growth. The creation of technological knowledge, the transfer of this knowledge and innovation are major engines for growth in these theories. New growth theories finds a bidirectional causality between FDI and growth. Factors that could explain this are as follows: the incorporation of new inputs and foreign technologies in the production function of host country, the increase in host country's existing knowledge through training and development (Borensztein et al., 1998 and De Mello, 1999). Nonetheless, Dowling and Hiemenz (1982) contends that inflow of FDI is stimulated when there is rapid economic growth in the host country. This rapid growth creates an enabling environment and a self-assurance to foreign investors to invest in the host country's need for FDI gives birth to a macroeconomic climate that attracts foreign investors. Hence, foreign direct investment and economic growth has a positive and bidirectional causality relationship.

Several studies have been conducted to measure the causal relationship between FDI, GDP in KSA (e.g. Mohmmed, Tarek 2010, Mounir, Atef 2018, Khalid, 2013). However, most studies do not use the method of combining tests (ARDL, VECM and Toda - Yamamoto) to measure the causal relationships relationship between FDI, GDP Non-Oil exports in KSA.

2.1 FDI in Kingdom of Saudi Arabia:

Saudi Arabia, just like other developing countries, has highly benefitted from FDI. The foreign firms in Saudi Arabia include large multinational banks such as the Gulf International Bank and the Qatar bank. Other companies include foreign manufacturing companies and telecom companies.35 Ramady and Saee (2007) analyzed the role of FDI in the Saudi economic with a focus on how foreign direct investments have transformed Saudi's economic growth. They pointed that Saudi Arabia has made major milestones towards increasing their efforts to attract foreign investors. Their study findings showed that foreign direct investment has led to the creation of employment increased the GDP of Saudi Arabia as well as that of the domestic firms that have benefited from new technologies and production techniques those foreign firms have introduced in Saudi Arabia (Ramady, John, 2007).

FDI by multinational corporations (MNCs) in Saudi Arabia can be classified as either vertical FDI (resource seeking) or horizontal FDI (market seeking). Vertical FDI is attracted by the country's abundant natural resources, such as crude oil, natural gas and minerals. Indeed, the first entry of an MNC in Saudi Arabia in 1933 was of the resource-seeking type, when the government of Saudi Arabia signed the basic concession agreement with Standard Oil Company of California (SOCAL), known today as Chevron. The vertical FDI has served as a tool of increasing for trade between Saudi Arabia and the rest of the world.



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3.1 The Growth Model of the Kingdom of Saudi Arabia:

The Kingdom's prevailing growth model depends mainly on oil revenues that are redistributed in the economy via government spending on goods, services and employee salaries. Part of this spending relates to citizens' wages and payroll in the public sector and is classified as a consumption expenditure, while another part of it relates to capital spending on development projects, infrastructure and social services. This kind of spending goes to the payment of private sector contracts and profits. After four decades of oil exports, this sector's activity is still concentrated in three main areas: construction, services, and the importation and marketing of foreign products under Commercial Agency Law. This was achieved through the use of two main factors, (1) huge government spending in times of oil abundance and (2) cheap and intensive production factors (e.g. capital, cheap energy inputs and low-skilled foreign labor, most of whose income is lost to the domestic economy through workers' remittances abroad) (Khalid 2015).

Saudi Arabia's economic future depends on building human capital, innovation and technological development, while the current model adopted in the Kingdom depends on two factors: generous government spending and intensive production factors. Most of the output of this growth is represented in higher real estate prices, accompanied by an unjustified increase in population due to huge import of foreign labor that does not generate human capital accumulation, lead to technological development and industrial transformation, or contribute to building a knowledge-based economy or diversifying exports. Perhaps this situation may end up in a bubble, followed by a recession for a long time until oil prices rise again.

3- Data, model and methods:

1.3 Data and empirical modeling:

Data were collected the annual data for FDI, GDP and non-oil exports from the International Monetary Fund. This study covers the annual sample period from 1970 to 2019. The descriptive statistics show that the standard deviations differ among variables. In addition, at the 5% significance level, we find that all variables are normally distributed (Jarque-Bera, Skewness and Kurtosis statistics) See Table No. (1).

Table (1): Descriptive Statistics:

Statistics	FDI	GDP	NOE
Mean	262681065971.759	6248396260.924869	120124058821.1863
Median	155950708152.6145	874450102.521353	62431688637.29755
Maximum	766350347333.333	39455863929.3334	399419733333.3329
Minimum	5377333333.33333	-3732394367.24856	2731777777.77778
Std. Deviation	242696763626.1531	11082189552.44239	116249445647.022
Skewness	1.0329836795287	1.754655550165247	1.100208075358777
Kurtosis	2.562814741363974	5.039691293436434	2.883656753798241
Jarque Bera	9.290316831373444	34.32417702379836	10.11534789015713

2.3 Methodology:

As In time series econometrics, the starting point is to study the time series properties of the variables under consideration to avoid any spurious relationships between them. If the time series properties of the variables are satisfied, then possible long-term relationships or co-integration are likely to exist, The analytical procedure adopted in this study include: the specification of the empirical models, the concept of Toda-Yamamoto causality within a ARDL framework, Vector Error-Correction Modeling (VECM). The baseline empirical model is specified to capture the hypothesized relationship among the core variables namely FDI, GDP and non-oil exports. In doing this, the endogenous growth theory is a useful guide. This theory emphasizes the role of exports in determining long-run growth via a higher rate of technological innovation and dynamic learning from abroad (Romer, 1986) (Lucas, 1988).



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2.3 Methodology:

The analytical procedure adopted in this study include: the specification of the empirical models, the concept of Toda-Yamamoto causality within a ARDL framework, Vector Error-Correction Modeling (VECM). The baseline empirical model is specified to capture the hypothesized relationship among the core variables namely: FDI, non-oil export, and GDP. In doing this, the endogenous growth theory is a useful guide. This theory emphasizes the role of exports in determining long-run growth via a higher rate of technological innovation and dynamic learning from abroad (Romer, 1986) (Lucas, 1988). The specified model is provided as follows:

FDI = f(GDP, Non-Oil Exports)

Figure 1 shows that both foreign direct investment and Non-Oil Exports increased during the study period. It was found that during the period 1990 and 2019 the increase and change was A quick and simple. The researcher finds that the change is consistent for all variables during this period. and Saudi GDP product is increasing during the study period because the increase in the rates of FDI, non-oil exports and other variables.





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1.2.3 Autoregressive Distributed Lag Models (ARDL):

The study draws on the ARDL approach that is proposed by Pesaran et al and subsequently it was modified by Pesaran, Shin and Smith by introducing the bounds testing approaches. We select this technique for two main reasons: First, it is effective in executing the short- and long-term relationships between the different variables that do not have the same order of integration - provided that such variables are stationary in level; I (0), and/or they are stationary in the first difference; I (1). Second, the ARDL approach can remove the problems associated with omitted variables and auto correlation. The model used for the application of the ARDL approach:

$\Delta FDI_t = \alpha + \ \Sigma \ \beta_i \ \Delta FDI_{t-1} + \ \Sigma \ \lambda_i \ \Delta GDP_{t-i} + \phi \ FDI_{t-1} + \delta \ NOE_{t-1} + \eta_t$

FDI= Foreign Direct Investment

GDP= Gross domestic product

NOE= Non-oil exports

 $(\alpha, \beta, \lambda, \phi, \delta)$ = Coefficients of variables

 Δ = The first difference for the variables

 η = Random error

Although ARDL co-integration technique does not require pre-testing for unit roots, to avoid ARDL model crash in the presence of integrated stochastic trend of I(2), we are of the view the unit root test should be carried out to know the number of unit roots in the series under consideration. This is presented in the next section.

2.2.3 Vector Error Correction Models (VECM):

The VECM approach provides a systematic way to treat non-stationary variables in a simultaneous equation system, thus addressing the issues of simultaneity and non-stationarity. A brief discussion of these issues is followed by a description of the general form of the VECM, and included variables FDI, GDP and non-oil exports of the Saudi economy during the period which is 1970-2019. Causality inferences in the multi-variate framework are made by estimating the parameters of the following VECM equations.

$$\left[\Delta FDI = \alpha + \sum_{i=1}^{m} \beta i \Delta FDI_{t-i} + \sum_{k=1}^{0} \delta \Delta GDP + \sum_{l=1}^{p} \zeta \Delta Non - OilE + \theta Z_{t-1} + \varepsilon_{l}\right]$$

where (FDI) and (GDP) denote FDI and GDP respectively, (Non-OilE) is the Non-Oil Exports, and zt-1 is the errorcorrection term which is the lagged residual series of the cointegrating vector. The error-correction term measures the deviations of the series from the long run equilibrium relation.



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3.3.3 Toda - Yamamoto (1995) Causality:

The Toda and Yamamoto (1995) method of Granger causality test is relatively more efficient in small sample data sizes and is particularly appropriate for time series for which the order of integration is not known or may not be necessarily the same, or the order of integration is more than two. Another advantage of this procedure is that it does not require the pretesting of the time series for cointegration properties so long as the order of integration of the process does not exceed the true lag length of the model. Toda and Yamamoto (1995) methodology of Granger causality test by directly performing the test on the coefficients of the levels VAR, minimises the risk associated with possibly wrongly identifying the orders of integration of the series and the presence of cointegration relationship (Galies, 1997; Mavrotas and Kelly, 2001).

Modified Wald test (MWALD) for the causality test is used as proposed by Toda and Yamamoto (1995) which avoids the problems associated with the ordinary Granger causality test by ignoring any possible non-stationary or co-integration between series when testing for causality. The Toda and Yamamoto (1995) approach fits a vector autoregressive model in the levels of the variables thereby minimizing the risks associated with the possibility of faulty identifying the order of integration of the series (Mavrotas and Kelly, 2001).

4- Empirical Results and Discussion:

1.4 Unit Root and Co-integration Tests:

Before I proceed with the ARDL bounds test, I tested for the stationarity status of all variables to determine their order of integration. This is to ensure that the variables are not I(2) stationary so as to avoid spurious results. According to Ouattara (2004) in the presence of I(2) variables the computed F-statistics provided by Pesaran et al. (2001) are not valid because bounds test is based on the assumption that the variables are I(0) or I(1). Therefore, the implementation of unit root tests in the ARDL procedure might still be necessary in order to ensure that none of the variable is integrated of order 2 or beyond. I employed ADF dickey-fuller test to obtain the order of integration of each variable as results shown in Table (2).

Relying on the results of the conducted unit root tests, we conclude that the studied time series are of Same order of integration. According to the results of the ADF test, we have variables (FDI, GDP and Non-Oil Exports) stationary in the first difference I (0).

Table (2): Results of Unit-Root Test (ADF):

Variables	Level ADF test statistics	Lags	First Difference ADF test statistics	Lags
FDI	-1.085793	1	-5.579721*	1
GDP	0.849850	1	-5.531369*	1
NOE	-0.736134	1	-5.702097*	1

*,** Denotes rejection at 5% and 1% levels, respectively.

Results of ADF unit root tests shown in Table 1, indicate that the hypothesis that the time series LFDI, LGDP and LNon-Oil Exports are stationary in the first difference can be accepted. Relying on the results of the conducted unit root tests, we conclude that the studied time series are of same order of integration. According to the results of the ADF, tests, we have all variables (FDI, GDP and Non-Oil Exports) stationary in the first difference I (0). has the order of integration I (1) based on the results of the ADF tests.

2.4 ARDL Bound Test Critical Values:

Maximum 4 lag is used to carry out the find cointegration relationship between variables. Minimum Akaike Information Criteria (AIC) and Schwarz Bayesian Information Criteria (SBC) are used to determineoptimal lag length. ARDL(4,4,3) is the optimal model for the cointegration analysis, and there is no autocorrelation problem in this estimated model. Besides, the calculated F-statistic of the model is founded as 18.45717.



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Table (3): ARDL Bound Test Critical Values:

k	F-statistic	10% Sign Lev	Significance5%SignificanceLevelLevel		2.5%Significance Level		1%Significance Level		
2	18.45	I(0)	I(1)	I(0)	I (1)	I(0)	I(1)	I(0)	I(1)
		3.17	4.14	3.79	4.85	4.41	5.52	5.15	6.36
Note: k denotes the independent variables in the model (GDP, Non-Oil Exports).									

The long-run co-integration relationship between FDI, GDP and Non-Oil Exports exists. So, the long-run coefficients of the model should be estimated. ARDL (4,4,3) is the optimal lag lengths for the long run model, and its estimation results are showed in Table (4). There is no autocorrelation, heteroskedasticity and normality problem in the long-run estimation. The FDI, GDP and Non-Oil Exports is calculated as 1.00, and it is statistically significant at 10%. According to long-run estimation results, GDP, Non-Oil Exports affects FDI positively.

Table (4): Long-Run Estimation Results :

Independent Variables	Coefficients		Probability		
D(FDI(-1))	0.5174	471**	0.0	0040	
D(FDI(-2))	0.577	723**	0.0021		
D(FDI(-3))	0.622	966**	0.0048		
D(GDP)	-0.04	2021	0.6900		
D(GDP(-1))	-0.03	1109	0.7527		
D(GDP(-2))	-0.274	4339*	0.0	0130	
D(GDP(-3))	-0.062	416**	0.0351		
D(NOE)	0.08	7260	0.4314		
D(NOE(-1))	-0.00	-0.007953		0.9379	
D(NOE(-2))	0.298	3017*	0.0045		
GDP(-1)	-0.00	7132	0.7962		
NOE(-1)	0.119300*		0.0154		
FDI(-1)	-0.882620*		0.0000		
С	-3.06E+09*		0.0046		
Descriptive Statistics					
R2	0.73 Heteroske		dasticity	1.16 [0.11]	
		Breusch-Pagan-Godfrey			
Adjusted R2	0.63	Normality (Jarque-Bera		1.71 [0.45]	
Autocorrelation (LM)	4.92 [0.42]	Durbin-Watson stat		2.02	

Note: ** and * denote statistical significance at the 1% and 5% levels, respectively. Figures in the square brackets are p-values

3.4 VECM Short Run Coefficients:

After estimating the long-run model, an VECM should be estimated. ARDL(4,4,3) is the optimal lag lengths for the VECM, and its short-run estimation results are displayed in Table (5). This model also passed all the diagnostic tests such as autocorrelation, heteroskedasticity, and normality. According to results, GDP, Non-Oil Exports affects FDI in the current year positively as expected. However, its effects are negative in 3 st and 5thlags. The coefficient of ECT is estimated as -0.88, it is negative and statistically significant as expected. This result indicates that 88% of disequilibrium is corrected in one year.



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Table (5): VECM Short Run Coefficients:

Variables	Coefficients	Standard error	t-ststistic			
D(FDI(-1))	0.184387	0.11593	1.59051			
D(FDI(-2))	0.631711	0.18669	3.38368			
D(GDP(-1))	0.043648	0.08405	0.51932			
D(GDP(-2))	-0.180461	0.08456	-2.13414			
D(NOE(-1))	0.026237	0.08833	0.29702			
D(NOE(-2))	0.239823	0.08466	2.83276			
С	1.264409	1.19808	1.38854			
R ² =0.59						
R ⁻² 0.54						
Durbin Watson stat =	Durbin Watson stat = 1.74					
Lagrange multiplier	Lagrange multiplier (Lag 1)=(0.2214), (Lag 2)=(0.3515), (Lag 3)=(0.7718)					
Heteroskedasticity Breusch-Pagan-Godfrey = 0.31						
Breusch-Pagan-Godfrey test=(0.4032)						
Normality Jarque-Bera test=(0.3421).						
*Indicates significant at 1%;						
**Indicates significant at 5%;						

VECM: Vector error correction model

The results show that FDI has long run relationship with GDP, Non-oil exports. Further, GDP, Non-oil exports positively and significantly affect FDI in the short run as well as in the long run.

4.4 Toda – Yamamoto (1995) Causality Test:

After establishing that a co-integrated relationship between GDP, FDI and Non-oil exports exists, the study proceeded to also test for Toda - Yamamoto causality as introduced by Toda - Yamamoto (1995). Modified Wald test (MWALD) for the causality test is used as proposed by Toda and Yamamoto (1995) which avoids the problems associated with the ordinary Granger causality test by ignoring any possible non-stationary or co-integration between series when testing for causality. The Toda and Yamamoto (1995) approach fits a vector autoregressive model in the levels of the variables thereby minimizing the risks associated with the possibility of faulty identifying the order of integration of the series (Mavrotas and Kelly, 2001).

So this final stage of our empirical analysis, we test for the causal relationship among our variables of interest according to Toda - yamamoto (1995) causality test.

Table (6): Toda – Yamamoto (1995) Causality Test:

Null Hypothesis:	Wald test statistic	P-value
D (FDI) does not Cause D (GDP)	2.772820	0.2500
D (GDP) does not Cause D (FDI)	2.083446	0.3528
D (FDI) does not Cause D (NOE)	5.343433	0.0491*
D (NOE) does not Cause D (FDI)	3.986331	0.1363
D (GDP) does not Cause D (NOE)	7.140083	0.0282*
D (NOE) does not Cause D (GDP)	18.03599	0.0001**

From table 6, we conclude that for FDI and GDP there is an independent causal relationship between them. Thus, neither is there a causal effect flowing from GDP to inflow of FDI nor is there a causal effect moving from inflow of FDI to GDP at 5% level of significance. And there is a one-way causal relationship between foreign direct investment and non-oil exports. Finally, there is a bidirectional causal effect between Non-Oil Exports and GDP in KSA. Thus, at 5% level of significance, Non-Oil Exports has a causal effect on GDP.



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CUSUM and CUSUMSQ (ARDL 4,4,3):

Figure 2.1 CUSUM



Figure 2.2 CUSUMSQ



The stability of the long run parameters were tested using the cumulative sum of recursive residuals (CUSUM) and CUSUM of recursive squares (CUSUMSQ). The results are illustrated in Figures 2.1 and 2.2. The results fail to reject the null hypothesis at 5 percent level of significance because the plot of the tests fall within the critical limits. Therefore, it can be realised that our selected ARDL (4,4,3) model is stable.

Conclusion:

The present article, by estimating a ARDL, VECM and Toda-Yamamoto Causalty equations, addresses how GDP, Non-Oil Exports and the interaction between both affects ' capacity to foster greenfield FDI in KSA. The results of this study contribute to the body of literature that addresses the issue of tThe relationship between FDI, GDP and Non-Oil exports . Arguments regarding the importance of FDI in economy. That for FDI and GDP there is an independent causal relationship between them. Thus, neither is there a causal effect flowing from GDP to inflow of FDI nor is there a causal effect moving from inflow of FDI to GDP at 5% level of significance. Thus, for oil producers like KSA, institutional reforms can significantly improve their capacity for attracting new investment partners. These reforms may raise the opportunity to diversify their economy and reduce the likelihood of suffering from the oil curse on FDI. Understanding the relationship between FDI, GDP and Non-Oil exports in KSA According for a practical manual from (ARDL, VECM) and Causality Approach with Toda-Yamamoto is key to uncovering the channels through which GDP on FDI affects economic performance, which helps to identify the policy levers that may be activated to maximize both FDI with GDP through Non-Oil exports in KSA. This paper attempted to fill this gap. Johnson (2006) demonstrated that FDI inflows have a positive impact on host country GDP for enhancing but not for developed economies. The domestic investments have a positive



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influence on GDP both in developed and developing economies as well. There are kinds of variables that affects both GDP and export volume. Kalayci and Yazici (2016) indicate that there is a long term relationship between GDP, export volume and civil aviation.

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Cancelation:

This study examines the long-run relationship between FDI, GDP and Non-Oil Exports foreign direct investment, in KSA for the time period 1970 to 2019. In order to assess the long-run relationship, the study used the tests Evidence from (VECM) and (ARDL) and evaluation from Toda - Yamamoto (1995) Causality test. A practical manual and best Implementation Strategies.

References:

Abogan, O.P, Akinola, E.B and Baruwa, O.I (2014), Non-oil export and Economic growth in Nigeria (1980-2011). Journal of Research in Economics and International Finance (JREIF), Vol. 3(1), pp.1-11.

Adel Shakeeb Mohsen (2015), Effects of Oil and Non-Oil Exports on the Economic Growth of Syria. Academic Journal of Economic Studies, Vol. 1, No.2, pp69-78.

Al-Khatir, Khalid, "Challenges to Oil Prices Plunge and Economic Diversification in GCC Countries", (2015). For an extensive review on the effect of FDI on economic growth, see Ozturk (2007) and Almfrajia and Almsafir (2014) Galies, D. (1997). Causality between the measured and underground economies in New Zealand. Applied Economics Letters, 4(1), 63–67. <u>https://www.journals.uchicago.edu/doi/10.1086/261420</u>.

J. Andreas et al., "The effects of FDI inflows on host country economic growth," The Royal Institute of technology. Centre of Excellence for studies in Science and Innovation, 2006.

Kalu, U.D and Agodi, J.E (2014), Investigation of the Impact of Non-oil Revenue on Economic Growth in Nigeria. International Journal of Science and Research, Vol. 3(11), pp2571-2577.

Lucas, R.E., 1988. On the mechanics of economic development. Journal of Monetary Economics, 22(1): 3-42 Mavrotas, G. and R. Kelly, 2001, Old wine in new bottle: Testing causality between savings and growth, The Manchester School Supplement, p. 97-105.

Mavrotas, G., & Kelly, R. (2001). Old wine in new bottles: Testing causality between savings and growth. The Manchester School, 69, 97–105. doi: 10.1111/1467-9957.69.s1.6

Pesaran M, Shin Y, Smith R. Bounds testing approaches to the analysis of level relationships. J Appl Econom. 2001;16:289e326.

Pesaran M, Shin Y, Smith R. Testing for the Existence of a Long-run Relationship. Faculty of Economics, University of Cambridge; 1996. No.9622.

Ramady, Mohamed A., and John Saee. 'Foreign Direct Investment: A Strategic Move toward Sustainable Free Enterprise and Economic Development in Saudi Arabia'. Thunderbird International Business Review 49 no. 1 (2007): 37-56 Romer, P.M., 1986. Increasing returns and long-run growth. Journal of Political Economy, 95(5), pp.1002-1037

Romer, P.M., 1986. Increasing returns and long-run growth. Journal of Political Economy, 94: 1002-1037.

S. Kalayci and S. Yazici, "The Impact of export volume and GDP on USA's Civil Aviation in between 1980-2012," International Journal of Economics and Finance, vol. 8, no. 1, pp. 229-235, 2016

Saudi Arabian Monetary Agency (SAMA) (2016). Annual report, No. 52. Retrieved from http://www.sama.gov.sa/ar-sa/EconomicReports/Pages/AnnualReport.aspx.



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