Int. Journal of Management and Development Studies 9 (1): 24-31 (2020)
ISSN (Online): 2320-0685. ISSN (Print): 2321-1423

The impact of non-oil exports on economic growth in Saudi Arabia

Mohammed Ameen Alfakih[1] and Syeda R. Tabassum[2]

Abstract: *This research aims to measure non-oil exports' impact on economic growth in Saudi Arabia (1970-2018). The data published in the annual reports of the Saudi Arabian Monetary Authority (SAMA) was used. They were using the standard approach through the ARDL model to determine the impact of each of the non-oil exports, consumer spending, and government spending on economic growth represented by the GDP. The results showed there is a Co-integration relationship between the variables, and this means the existence of a long-run equilibrium relationship. The results also revealed a positive and significant impact of non-oil exports on economic growth in Saudi Arabia. The time series is not static at the level. At the same time, it is static and does not contain the root of the unit when taking the first difference for it at the level of significance (5%) except for consumer spending, which is static when taking the second difference.*

Keywords: Non-Oil exports, economic growth, GDP, ARDL, Co-integration.

Introduction

Foreign trade is an important factor in economic growth, and exports play a major role in this factor due to the gains made by exporting countries such as creating job opportunities, reforming the trade balance deficit, and improving the balance of payments structure, and others (Shatnawi, 2013). The disparity in the natural and acquired advantages of each country has led to its specialization in producing certain types of commodities, which created a surplus in its production and then exported the surplus to other countries of the world to import goods that are not available to them in turn. Carrying out new investments that create an increase in national income and thus raise the standard of living for individuals and contribute to solving social problems, the most important of which is unemployment (Hussein and Ali, 2018). Many developing countries have adopted a strategy to boost exports according to the principle of the comparative advantage available to each country. For example, we find that the Kingdom of Saudi Arabia, Algeria, Tunisia, and Egypt followed this strategy, even partially, with Saudi Arabia and Algeria specializing in exporting petroleum and some mineral resources, while Tunisia specialized in Exporting phosphates, agricultural materials, and petroleum to a lesser extent. Egypt has specialized in exporting petroleum and cotton recently (Saeed, 2017). The relative importance of each group of Saudi manufacturing industries varies greatly, chemical industries and petroleum products are one of the dense industries that need huge funding to establish them (Al-Ghamdi and Al-Andijani, 2020).

[1] Research Scholar, Department of Economics, Dr. Rafiq Zakaria Collage for Women Aurangabad.
[2] Professor & Head Department of Economics Dr. Rafiq Zakaria Collage for Women Aurangabad.
E-mail: rukhsana.dr1@gmail.com
Corresponding author: Mohammed Ameen Alfakih can be contacted at:
schmalfakih83@gmail.com
Any remaining errors or omissions rest solely with the author(s) of this paper.

Research importance

Exports contribute to supplying the state's treasury with foreign currencies, which play an important role in stabilizing exchange rates, providing job opportunities, raising the average per capita share of GDP, and giving a competitive advantage to foreign trade in regional and global markets alike.

Research problem

Saudi Arabia's revenue depends mainly on oil exports, and in light of the question, crystallizes whether non-oil exports have a real impact on the Kingdom's economic growth.

Objective of the study

This research aims to identify non-oil exports' contribution and their impact on economic growth in Saudi Arabia during (1970-2018).

Literature review

Many studies have discussed the impact of non-oil exports on growth, whether in the Kingdom of Saudi Arabia or some Arab or foreign countries. In this part, we will review the most important of those studies to identify the most important results that have been reached.

The study of Al-Ghamdi and Al-Andijani (2020) aimed to estimate the impact of manufacturing industries on economic growth in the Kingdom of Saudi Arabia for the period (1990-2018) using the OLS method to test the relationship between the rate of economic growth, the rate of the domestic product of manufacturing, the rate of oil exports, the rate of industrial loans, and the rate of exports of manufacturing industries. The study found a negative impact of manufacturing industries, oil exports, and industrial exports on economic growth in the long term, despite their positive impact in the short term and the presence of a positive relationship between the growth rate of oil exports and economic growth in the short term and an inverse relationship of industrial loans and industrial exports on economic growth. The study Al-Siddiq (2020) aimed to analyze foreign exchange policies and their role in Sudan's foreign trade during (2005-2018). Agricultural and industrial financing, foreign trade sector financing, total bank financing granted, and volume of imports and exports. The study reached the most important of an inverse relationship between the exchange rate and each of the agricultural and industrial financing and the foreign trade sector's financing. The aim of the research Al-Kawaz (2019) is to estimate the impact of commodity exports and other variables on the economic growth of the Gulf Cooperation Council countries (Saudi Arabia as a model) for the period (1990-2018).

The most important finding of the researcher is the occurrence of a continuous deficit in the trade balance of the research sample countries, including Saudi Arabia, as a result of the superiority of imports over traditional exports during the research period and the existence of a short-term positive relationship between the increase in exports and the increase in the gross domestic product. The study of Behnam (2018) aimed to find out the effect of liberalizing foreign trade on the growth of the Jordanian industrial sector for the period (1990-2012). The researcher's most important finding is that the policy of economic openness to the outside world and the liberalization of foreign trade and investment lead to sustainable economic growth, and there is a slight improvement in growth manufacturing and exporting during the research period. The Dalilah (2018) study aimed to estimate the impact of exports and imports on Algeria's economic growth in light of the current global developments. The researcher used three indicators that represent trade openness, which are the index of exports to GDP, the index of imports to GDP, and the index of total exports and imports to GDP. The per capita GDP at real prices was also used as an indicator of economic growth. The researcher concluded that trade openness indicators had a negative and significant impact on

economic growth in Algeria. The study of Hussain and Ali (2018) aimed to clarify the impact of exports on two indicators of internal and external economic performance (GDP and trade balance) in Iraq during 2005-2015.

The gross domestic product increased by (0.364) billion dollars and the trade balance surplus increased by (0.462) billion dollars. Issa and Mahdi (2018) aimed to analyze and estimate the impact of advanced technology exports on Switzerland's economic growth for the period 2003-2016. The study concluded that an increase in exports by one unit, with other factors remaining constant, increases the gross national income by (2.993) million a dollar increase in the GDP by (2,469) million dollars and does not affect the unemployment rate in Switzerland during the research period, and an increase in the per capita GDP of (5284,049) dollars for the same period. Jaber (2018) aimed to estimate the impact of foreign trade on Palestine's economic growth and development for the period 1995-2012. The researcher's most important finding is that there is a positive effect of imports on economic growth in the cases of commodity and overall trade that includes service trade and a weak positive impact of exports on growth in both commodity and total trade. And the existence of a causal relationship between imports and exports in commodity trade indicates the importance of imports of raw materials, Machin, and fuel, especially since the most important exports are manufactures. Whereas, Saadawi and Bchitli (2016) aimed to estimate the impact of developing non-oil exports on economic growth during 2005-2015. The most important thing was Algeria's reliance on a single raw material for export, which is the fuel to obtain the necessary materials. It is subject to various crises resulting from the instability of oil prices. That most of the non-oil exports are nothing but petroleum products such as oils and gases and thus are affected by fluctuations in oil prices.

The study Al-Janabi (2015) aimed to find out the relationship between oil and non-oil commodity exports and economic growth in Iraq for the period (1991-2011) and to identify the degree of the impact of exports on economic growth represented by the gross domestic product (GDP). The study found that there is a strong moral relationship between oil exports and between GDP. This relationship explains a large proportion of changes in GDP in real terms. Shatnawi (2013) aimed to know the industrial exports and their impact on economic growth represented by the real GDP in Jordan for the period (1980-2010). The study used the Auto Dicky Fuller Test (ADF), the Phillips Perron Test (PP), the Johansson test for Co-integration, and the Granger test for causation. The study found a positive relationship between industrial exports to real GDP, a causal reciprocal relationship between industrial exports and real GDP, and a positive relationship between capital and real GDP. The analysis of the variance components showed that industrial exports were the strongest explanation for the prediction error in Real GDP.

Research methodology

The data published in the annual reports of the Saudi Arabian Monetary Authority (SAMA) during 1970 - 2018 was used. To achieve the objective of this research, we use the ARDL model to find out the extent of a Co-integration relationship by estimating the long-term and short-term relationships after making sure that there are no standard problems in the model and all the measurement conditions are met, E-Views 9 will be used to analyze the data.

The description of the variables

To find out the impact of non-oil exports on economic growth in the Kingdom of Saudi Arabia represented by the gross domestic product during (1970-2018), this research will consist of a dependent variable and three independent variables as follows:$\boldsymbol{GDP = f(CC, G, EX)}$

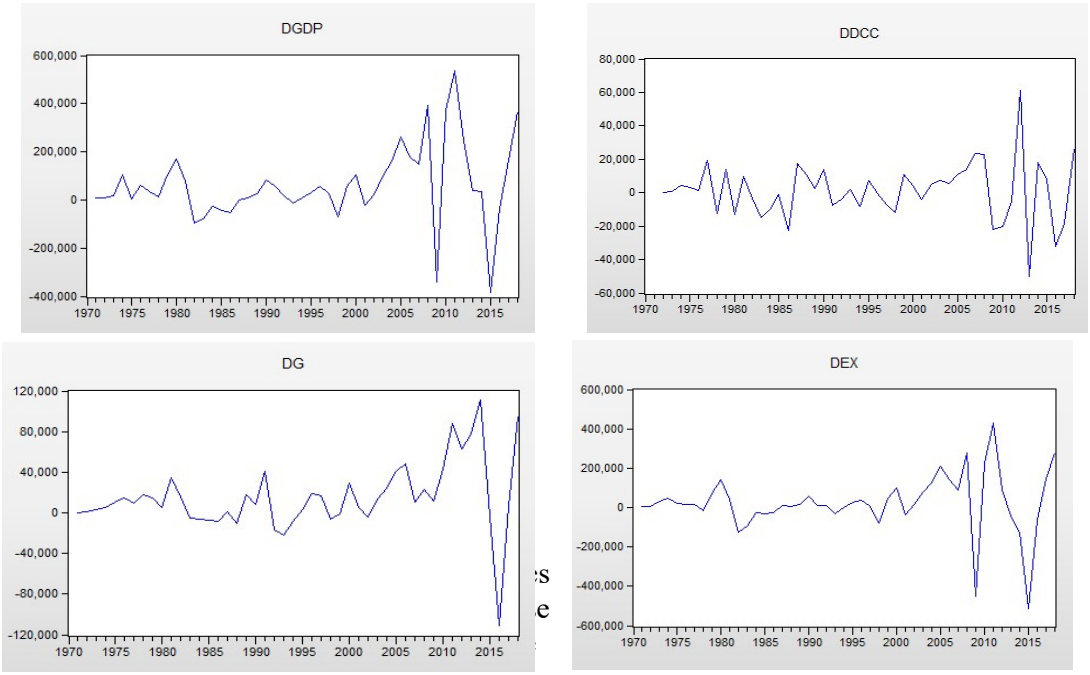
$$\boldsymbol{GDP_t = \beta_0 + \beta_1 CC + \beta_2 G + \beta_3 EX + \mu_t}$$

Where GDP: Gross domestic product
CC : Consumer expenditure
G : Government expenditure
EX: Non-oil Exports

Draw the time series

We notice through the chart below the instability of the time series of the dependent variable and the independent variables at the level and their stability when taking the first difference of these series, meaning that they are integrated of degree I(1) except for consumption spending, it is stable at the second difference as follows:

Figure 1: Graph to study the static of the study variables



The Unit Root test

To illustrate the stability of the series and its absence from the unit root, we use the Dickey-Fuller test, Table 1 shows that the variables are static at the first difference and with a significant level of 5%. Thus the autoregressive distributed lags model (ARDL) can be applied.

The ARDL model

After ensuring the stability of the study variables, we can estimate the model using ARDL, to test the existence of a co-integration relationship between the study variables. The optimal number of lags for the model was tested using Akike's information criteria, which determined (2,2,0,0). Table 2 shows the results of the ARDL test.

Table 1: Static test results using the ADF

Values of t-statistic using unit root test and prob.				
	variable	Intercept	Trend and intercept	None
level	GDP	1.14	-0.82	2.74
		0.99	0.95	0.99
	EX	-0.77	-2.05	0.24
		0.81	0.55	0.75
	CC	1.42	-0.09	2.14
		0.99	0.99	0.99
	G	2.03	0.03	3.5
		0.99	0.99	0.99
The first difference	**dGDP**	**-5.21**	-5.48	-4.63
		0.00	0.00	0.00
	dEX	**-5.59**	-5.56	-5.52
		0.00	0.00	0.00
	dCC	-2.16	-2.91	-1.34
		0.22	0.16	0.16
	dG	**-5.43**	-6.17	-2.25
		0.00	0.00	0.02
The second difference	**ddCC**	**-8.72**	-8.61	-8.78
		0.00	0.00	0.00
Critical values for t test				
Level of morale		Intercept	Trend and intercept	None
1%		-3.58	-4.17	-2.61
5%		**-2.92**	-3.51	-1.94
10%		-2.6	-3.18	-1.61

Table 2: ARDL model.

Variable	Coefficient	Std. Error	t-statistic	Prob. *
DGDP(-1)	0.38	0.113887	3.31	0.0020
DGDP(-2)	0.35	0.111478	3.13	0.0033
DEX	0.97	0.025236	38.51	0.0000
DEX(-1)	-0.41	0.120979	-3.39	0.0016
DEX(-2)	-0.31	0.109050	-2.83	0.0074
DG	0.53	0.133741	3.40	0.0003
DDCC	0.74	0.220857	3.37	0.0017
C	3406.72	4370.919	0.78	0.4406
R-squared	0.98	Mean dependent variable		63247.84
Adjusted R-squared	0.98	S. D. dependent variable		160493.9
S.E. of regression	22073.35	Akaike info criterion		22.99890
Sum squared resid.	1.85E+10	Schwarz criterion		23.31693
Log likelihood	-520.97	Hannan-Quinn criterion		23.11803
F-statistic	334.42	Durbin-Watson stat.		2.034139
Prob (F-statistic)	0.0000			

The results of the ARDL test indicate the validity of the model through the value of F, which indicates the significance of the model, and adjusted R2 indicates the high explanatory

ability of the independent variables to explain the change in the dependent variable. The Durbin-Watson test also indicates that the model is free from the problem of autocorrelation.

Co-Integration test

To test the existence of a co-integration relationship between the study variables, a bound test has been used. We notice through table (3) that the value of F-statistic (5.91), which is greater than the critical value (4.35) at a significant level (5%). This means that there is a long-run co-integration relationship between the dependent variable and the independent variables.

Table 3: Co-integration Test

Test Statistic	Value	k
F - statistic	5.913167	3
Critical value Bounds		
Significance	**I0 Bound**	**I1 Bound**
10%	2.72	3.77
5%	3.23	4.35
2.5%	3.69	4.89
1%	4.29	5.61

The results of the relationship are short and long run

After making sure of the existence of the co-integration relationship in the Table 3, which means the existence of a long-run equilibrium relationship between the study variables. Thus, the long-run and short-run relationships are estimated, which explain the magnitude of the effect of the independent variables on the dependent variable, as in Table 4.

Table 4: The results of the long and short run relationship

Co integrating Form				
Variable	**Coefficient**	**Std. Error**	**t-statistic**	**Prob.**
D(DGDP(-1))	-0.35	0.111478	-3.13	0.0033
D(DEX)	0.97	0.025236	38.51	0.0000
D(DEX(-1))	0.31	0.109050	2.82	0.0074
D(DG)	0.53	0.133741	3.40	0.0003
D(DDCC)	0.74	0.220857	3.37	0.0017
CointEq(-1)	-0.27	0.084260	-3.24	0.0024
Cointeq = DGDP – (0.9262*DEX + 1.9535*DG + 2.7239*DDCC + 12452.4964)				
Long Run Coefficients				
Variable	**Coefficient**	**Std. Error**	**t-statistic**	**Prob.**
DEX	0.93	0.188663	4.90	0.0000
DG	1.95	0.595510	3.28	0.0022
DDCC	2.72	1.243346	2.19	0.0347
C	12452.49	14161.759	0.88	0.3848

Results of a long-run relationship

1. An increase in non-oil exports (EX) by one unit leads to a rise in GDP (0.92), and the relationship between them is positive and significant.
2. Increasing government spending (G) by one unit leads to an increase in GDP (1.95), and the relationship between them is positive and significant.
3. The increase in consumer spending (CC) by one unit leads to a rise in GDP by (2.72), and the relationship between them is positive and significant.

Results of a short-run relationship

It was found that there is a positive and significant relationship between GDP and both consumer spending (CC), government spending (G), and non-oil exports (EX). We also notice that the value of the error correction parameter Coint. Eq. -1 was (0.273-), which is a negative and significant value at the level of (5%), and this indicates the existence of a correct joint integration relationship, and that the deviations in the short period of time are corrected by (0.273-) to reach to a long-term Equilibrium relationship.

Conclusion

The research aims to measure non-oil exports' impact on economic growth in Saudi Arabia during (1970-2018). The data published was used in the annual reports of the Saudi Arabian Monetary Authority (SAMA). ARDL co-integration model used to determine the impact of non-oil exports (EX), consumer spending(CC), and government spending (G) on the economic growth represented by GDP. This research included two parts. The first part discussed the development of non-oil exports and economic growth in Saudi Arabia during the research period. The second part was devoted to identifying and evaluating the standard research model using the E-views9 program and then discussing the results. The result was as follows: The result showed a covariance relationship between the variables, which means a Long-Run relationship and a balanced relationship. The results also revealed a positive and important impact of non-oil exports (EX) on economic growth in Saudi Arabia. The results of a long-run relationship were as follows: An increase in non-oil exports (EX) by one unit leads to a rise in GDP (0.92), and the relationship between them is positive and moral. While increasing government spending (G) by one unit leads to an increase in GDP (1.95), the relationship between them is positive and important. The rise in consumer spending by one unit led to the rise in GDP by (2.72), and the relationship between them was positive and significant.

The results of a short-run relationship also showed that there is a positive and significant relationship between GDP, consumer spending (CC), government spending (G), and non-oil exports (EX). We also notice that the value of the error correction factor CointEq-1 was (0.273), which is a negative and significant value at the level of (5%) and this indicates the existence of a correct joint integration relationship, and that the deviations in the short time period are corrected with (0.273) to reach a long-lasting relationship balance. We found using the Augmented Dickey-Fuller test (ADF) that all of the time series are stability at first difference and integrated at first degree I(1), while consumer spending is stable at the second difference.

References

Al-Ghamdi, R. and Al-Andijani, M. (2020), "The impact of manufacturing industries on economic growth in the Kingdom of Saudi Arabia for the period (1990-2018)", *Journal of Economic, Administrative and Legal Sciences*, Vol. 4 No. 3, pp. 108-126.

Al-Janabi, H. (2015), "The impact of exports on economic growth in the Iraqi economy for the period (1991-2011)", *Journal of Baghdad College of Economic Sciences University*, No. 46, pp. 135-152.

Al-Kawaz, S. (2019), "The impact of commodity exports and other variables on the economic growth of the Gulf Cooperation Council countries: Saudi Arabia as a model (1990-2018)", *Al-Rafidain Development Journal*, Vol. 38 No. 123, pp. 106-123.

Behnam, S. (2018), "The impact of liberalization of foreign trade on the growth of the Jordanian industrial sector for the period (1990-2012)", *Al-Rafidain Development Journal*, Vol. 37 No. 118, pp. 176-189.

Dalilah, T. (2018), "The impact of exports and imports on economic growth in Algeria in light of the current global developments", *Namaa Journal of Economy and Trade*, No. 3, pp. 233-246.

Hussein, A. and Ali, Z. (2018), "The impact of exports on the gross domestic product and the trade balance in Iraq for the period (2005-2015)", *Journal of Administrative Sciences and Economics*, Tikrit University, Vol. 4 No. 44, pp. 174-184.

Moussa, A. (2020), "An analytical study of foreign exchange policies and their impact on foreign trade, Sudan during the period (2005-2018)", *Journal of Al-Muthanna for Administrative and Economic Sciences*, Vol. 10 No. 2, pp. 153-162.

Jaber, A. (2018), "The impact of foreign trade on economic growth and development in Palestine for the period (1995-2012)", Munich Personal RePEc Archive, Ministry of Education and Higher Education, Gaza, Palestine.

Issa, S. and Mahdi, Z. (2018),"The impact of advanced technology exports on economic growth in Switzerland for the period (2003-2016)", *Journal of Tikrit for Administrative Sciences and Economics*, Tikrit University, Vol. 4 No. 44, pp. 261-274.

Saadawi, A. and Bashtali, N. (2016), "The impact of non-oil exports development on economic growth, case study of Algeria, Period (2005-2015)", Master Thesis, International Trade Specialization, College of Economic, Commercial, and Management Sciences, University of Algeria.

Saeed, H. (2017), "The impact of the two strategies of promoting exports and importing imports on the Gross Domestic Product in Sudan (1970-2014)", PhD Thesis, College of Graduate Studies, Sudan University of Science and Technology.

SAMA (2019), Saudi Arabian Monetary Authority, Annual report.

Shatnawi, M. (2013), "Industrial exports and their impact on economic growth in Jordan (1980-2010)", Master Thesis, College of Economics and Administrative Sciences, Yarmouk University, Irbid, Jordan.