

Association among Omani Gross Capital Formation, Final Consumption Expenditure, Exports, and Imports

Dr. Abubakar El-Sidig Ali A Mahdi
Sultanate of Oman

DOI: <https://doi.org/10.51244/IJRSI.2023.1012005>

Received: 04 August 2023; Revised: 22 November 2023; Accepted: 27 November 2023;

Published: 26 December 2023

ABSTRACT

Purpose – The primary pursuit of this investigation is to examine the link between Omani gross capital formation GCF (investment) as a dependent variable and imports, exports, and final consumption expenditure FCE as independent variables from 1990 to 2021 and how these variables impact Omani GCF behavior.

Method– The co-integration model's auto regressive distributed lag (ARDL) bounds test is employed to achieve this investigation. The study scoped over 33 years, starting from 1990 and ending in 2021, entirely considered secondary data sourced from the World Bank (<https://data.worldbank.org/indicator/NE.GDI.TOTL.CD?locations=OM>), (<https://data.worldbank.org/indicator/NE.IAD>), (<https://data.worldbank.org/indicator/NE.EXP.GNFS.CD?locations=OM-AD>), and (<https://data.worldbank.org/indicator/NE.CON.TOTL.CD?locations=OM-AD>).

Findings – Results of the statistical analysis demonstrated that, after checking the value of F-statistic and comparing it with I1 Bound, the study concluded that there is a relationship between the independent variables and dependent one, and by conducting the Bounds Test (Long run relationship between variables), its outcomes say that there is a positive long-run link between imports and GCF and a negative long-run exists between FCE and GCF, whereas there is only a negative short-run between exports and GCF.

Definition: According to the World Bank, the gross capital formation (formerly gross domestic investment) contains outlays on additions to the economy's fixed assets with net alterations in the inventories' level. Fixed assets consist of:

- Land advancements (fences, ditches, drains, and on).
- Plant, machinery, and equipment acquisitions.
- The roads' construction, railways, and the like, containing hospitals, offices, schools, private residential dwellings, and commercial and industrial premises

Inventories are stocks of goods firms hold to satisfy temporary or unanticipated oscillations in production or sales and "work in progress." As per the 1993 SNA, net acquisitions of valuables are also considered capital formation.

Key words: Gross Capital Formation (GCF), Imports, Exports, Final Consumption Expenditure (FCE), and ARDL

INTRODUCTION

Mohn and Misund (2009) say that further academic consideration and curiosity in philosophies of investment activities were motivated through theoretical study at the very beginning of the 1980s, as soon as

some authors, such as Cukierman, Bernanke and McDonald, and Siegel in 1980, 1983, and 1985, considered the consequences of irreversibility and waiting choices for investment policymaking.

Typical for such contributions has been the notion that investment might not be upturned. This irreversibility made the firms with a genuine decision to delay their business's investment. Any rise in the ambiguity about upcoming lucrativeness shall raise the importance of this waiting option. So, this aspect of collected works proposes that investment will react adversely to increased opacity.

In the words of Mahdi (2019), investment has a significant role in developing economies such as Oman because it initiates its development and structural reforms. Regardless of the existing economic, political, and social situations at the Sultanate's renaissance in 1970, the concentrated platforms on investment over the last four decades in the company of his majesty's sensible strategies have been capable of handing the modest oil proceeds to advanced economic and social infrastructure, necessary for leading maintainable development.

In addition to its strategic location, Oman has favorable infrastructures that inspire and ease domestic and overseas investment in the Sultanate. Furthermore, Oman is categorized by its steady economy, reliable infrastructure, and available human resources that assure the easiness of investment in the Sultanate, not to mention the regulations issued to help this open economic course and to motivate foreign investments, which are slowly growing by the Omani engagement in global organizations, international trading organization, and free trading agreement with the United States.

However, Mohn and Misund (2009) revealed that the investment ambiguity association has filled the interest between theoreticians and experimental researchers for longer ages. An old-fashioned way of thinking has its source in the properties of neoclassical production know-how.

Timely theoretic contributions emphasize the consequences of convexity of the profit function. It reflects that any price deviation might be used for profit maximization. Therefore, any growth in indecision might cause a rise in the marginal valuation of the investment, creating a positive connection between capital accumulation and insecurity.

According to Factfish (2018), Trading-economics (2018), and Index-mundi (2018), households' final consumption expenditure (formerly private consumption) represents the market value of all goods and services, comprising durable goods (cars, washing machines, home computers) purchased by households. However, this excludes purchases for dwellings but includes rent for owner-occupied houses. It also comprises payments and fees to the government for certificates and licenses. Here, household consumption expenditure includes the expenditure of non-profit institutions serving households, even when it is reported separately by the nation-state.

CBO (2017) show that the high degree of trade openness is the main characteristic of the Sultanate's economy, and the hydrocarbon sector is its backbone. The net exports of the hydrocarbon sector set up a significant share in the Sultanate's total demand, and any main deviation in this element has a robust bearing on the economic growth and other related macro variables (*for instance*, current account balance and fiscal balance).

Omani foreign policy has been designed by long historical experience with a careful approach to having welcoming relations with all the neighboring and other foreign economies. As per the Omani Ministry of Foreign Affairs, Omani foreign policy is built on four principles:

1. Development and upkeep of decent relationships with neighbor nations;
2. Outward and internationalist outlook, as suits Omani geographical site and ancient maritime traditions;

3. A pragmatic approach to mutual relationships, stressing underlying geostrategic realism rather than short-term ideological positions; and
4. Look for security and stability through collaboration and peace rather than conflict.

According to Ministry of Commerce and Industry (2014), Omani devotion to these principles has permitted foreign policy to be elastic and to satisfy the challenges of the current global environment with sureness. The Sultanate enjoys robust and developing relationships with the USA, the UK, and the other nations of the European Union, as well as the Russian Federation and the nations of North and South America.

In the words of Hall (1986), contemporary thinking concerning the possible role of movements in the consumption function in overall macro fluctuations started with Milton Friedman and Gary Becker's "A Statistical Illusion in Judging Keynesian Models" (1957). They showed that irregular shifts in the consumption function could stimulate a positive connection between consumption and income, making the consumption appear more sensitive to income than it actually was and also making the consumption function more reliable than it seemed.

However, neither Friedman and Becker nor other workers on the consumption function pursued the notion that shifts in the consumption function might be an essential element or factor of the business cycle.

Consumption is the dominant element of GNP. A 1% alteration in consumption is fivefold the size of a 1% change in investment. The paper studies whether consumers' behavior is an independent source of macroeconomic movements or whether most disturbances come from other sectors or sources.

Informal commentaries on the business cycle place significant weight on independent consumption behavior. It is commonplace to hear of a business rebirth flashed by consumers.

On the other hand, all contemporary theories of fluctuations make the consumer a reaction to economic occurrences, not a motivation of them. Irregular shocks in technology are typically the driving force in fully articulated models.

As per Rodrik (1997), an export-oriented scheme figures prominently in most explanations of the East Asian miracle. By now, every college undergraduate in economics is taught a story along the following lines.

Before the early 1960s, South Korea and Taiwan shadowed import-substitution policies with high import protection rates, multiple and overvalued exchange rates, and repressed financial markets. These policies, also adopted by most other developing countries at the time, were scrapped in the late 1950s and 1960s in favor of export-oriented policies, which highly lowered (or eliminated) the anti-export bias of their trade regimes.

The reforms involved devaluations, currency unification, export subsidies, and moderate import liberalization. These policies allowed South Korea and Taiwan to specialize along their comparative advantage and to benefit from expanded trade. Greater openness, in turn, fostered technological improvements, increased private investment, and a high economic growth rate.

METHODOLOGY

The association of Omani Gross Capital Formation (Investment), Imports, Exports, and Final Consumption Expenditure (1990-2021) is studied using the ARDL model. According to Sebastian and Daniel (2022), Kripfganz, and Schneider (2018), Chittedi (2012), Hasan and Nasir (2008), Nkoro and Uko (2016) and Oskenbayev, Yilmaz, and Chagirov (2011), this approach is selected as it has advantages over the previous methodologies such as Engel and Granger (1987), Johansen and Juselius (1990), fully modified OLS

procedure of Phillips and Hansen’s (1990) and Vector Auto regressive (VAR), in a sense that it eases a restrictive assumption that all variables (dependent and independent) need to be integrated of order one, that is I(1) variable.

Nevertheless, the ARDL approach allows some variables to be integrated of purely order one I(1) and some of order zero I(0) or jointly cointegrated. Therefore, the ARDL technique might be most suitable in the unsure condition of variable features. Also, the ARDL estimates are impartial and efficient. It, too, has the following benefits:

- The technique is influential even for small sample-size examinations.
- It assists in estimating long and short-run association models.
- It determines causality and explanatory and explained variables.
- It can be employed irrespective of the variables’ stationary properties in the sample

The following is what so called **ARDL equation**:

$$d(Y_t) = c + \lambda Y_{t-1} + \beta X_{t-1} + \sum_{i=1}^m a_{1,i} * d(Y_t - i) + \sum_{i=0}^k a_{2,i} * d(X_t - 1) + \epsilon_t$$

$\sum_{i=1}^m a_{1,i} * d(Y_t - i) + \sum_{i=0}^k a_{2,i} * d(X_t - 1) + \epsilon_t$: represents the short run relationship

EMPIRICAL ESTIMATION

3.1 Unit Roots Tests:

To assure non-residual auto correlation, the lowest AIC (see table.1) has been used to determine the number of selected lags for the dependent and independent variables as well.

Then, the Augmented Dickey-Fuller (ADF) unit-roots test was run- for the four variables independently to determine the order of integration among them and to ensure that no one of them is integrated of order two I(2) and to avoid the possibility of spurious regression before proceeding to the ARDL estimation analysis.

Table No.1

Dependent Variable: GCF

Method: Least Squares

Date: 11/16/23 Time: 13:07

Sample: 1990 2021

Included observations: 32

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IMP	1.212225	0.192023	6.312910	0.0000
XP	-0.170054	0.083687	-2.032024	0.0514
FCE	-0.204384	0.083380	-2.451236	0.0205
R-squared	0.962791	Mean dependent var		1.27E+10
Adjusted R-squared	0.960225	S.D. dependent var		1.06E+10
S.E. of regression	2.10E+09	Akaike info criterion		45.86210

Sum squared resid	1.28E+20	Schwarz criterion	45.99951
Log likelihood	-730.7935	Hannan-Quinn criter.	45.90764
Durbin-Watson stat	1.356827		

The outcomes over the period after the first difference for the dependent variable (GCF) and all independent variables -Imports, Exports, and FCE are integrated of order one I(1)), appeared in tables 2,3,4 and 5.

For the dependent variable (GCF), table.2 shows that ADF t-statistic (-4.970626) exceeds Test critical values at 1% level, 5% level, and 10% level. And the P-value is statistically significant (0.0004), demonstrating that the (GCF) is stationary at the first difference and integrated of order one I(1).

Table No.2

Null Hypothesis: D(GCF) has a unit root				
Exogenous: Constant				
Lag Length: 0 (Automatic – based on AIC, maxlag=2)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-4.970626	0.0004
Test critical values:	1% level		-3.670170	
	5% level		-2.963972	
	10% level		-2.621007	

On the other hand, for the first independent variable (Imports), table.3 displays that ADF t-statistic (-5.276758) is more than Test critical values 1% level, 5% level, and 10% level. And the P-value is statistically significant (0.0002), confirming that the (Imports) is stationary at the first difference and integrated of order one I(1).

Table No.3

Null Hypothesis: D(IMP) has a unit root				
Exogenous: Constant				
Lag Length: 0 (Automatic – based on AIC, maxlag=2)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-5.276758	0.0002
Test critical values:	1% level		-3.670170	
	5% level		-2.963972	
	10% level		-2.621007	

For the second independent variable (Exports), table.4 shows that ADF t-statistic (-4.471512) is greater than Test critical values 1% level, 5% level, and 10% level. And the P-value is statistically significant (0.0014), confirming that the variable (XP) is stationary at the first difference and integrated of order one I(1).

Table No.4

Null Hypothesis: D(XP) has a unit root				
Exogenous: Constant				
Lag Length: 1 (Automatic – based on AIC, maxlag=2)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-4.471512	0.0014
Test critical values:	1% level		-3.679322	
	5% level		-2.967767	
	10% level		-2.622989	

For the last independent variable (Final Consumption Expenditure), table.5 shows that the ADF t-statistic (-3.854124) is greater than Test critical values 1% level, 5% level, and 10% level. And the P-value is statistically significant (0.0272), confirming that the variable (FCE) is stationary at the first difference and integrated of order one I(1).

Table No.5

Null Hypothesis: D(FCE) has a unit root				
Exogenous: Constant, Linear Trend				
Lag Length: 0 (Automatic – based on AIC, maxlag=2)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-3.854124	0.0272
Test critical values:	1% level		-4.296729	
	5% level		-3.568379	
	10% level		-3.218382	

3.2 ARDL Estimation Analysis

Here, the estimation of the ARDL form of the equation has occurred where the optimal lag length is chosen based on one of the standard criteria like the Akaike Information (AIC) or Schwartz Bayesian (SIC). The following are estimation equation, substituted coefficients, and cointegrating equation:

Estimation Command: ARDL GCF IMP XP FCE @

Estimation Equation:

$$GCF = C(1)*GCF(-1) + C(2)*IMP + C(3)*IMP(-1) + C(4)*IMP(-2) + C(5)*IMP(-3) + C(6)*IMP(-4) + C(7)*XP + C(8)*FCE + C(9)$$

Substituted Coefficients

$$GCF = 0.0788925691312 * GCF (-1) + 1.2005219437 * IMP + 0.273912938285 * IMP (-1) - 0.30456169181 * IMP (-2) + 0.243225882669 * IMP (-3) + 0.53546663509 * IMP (-4) - 0.0855420839302 * XP - 0.830313757627 * FCE + 1697442157.13$$

Cointegrating Equation

$$D(GCF) = 1697442157.124849100000 - 0.921107430869 * GCF(-1) + 1.948565707937 * IMP(-1) - 0.085542083930 * XP - 0.830313757627 * FCE + 1.200521943704 * D(IMP) - 0.474130825948 * D(IMP(-1)) - 0.778692517758 * (GCF - (2.11545976 * IMP(-1) - 0.09286874 * XP(-1) - 0.90142988 * FCE(-1) + 1842827557.61061760) - 0.535466635090 * D(IMP(-3)))$$

Then, the restricted version of the equation is resolved for the long-run solution. The result in “Table 6” suggests no spurious regression as R-squared (0.989086) is less than the value of the Durbin-Watson stat (1.813494) (see Table.6).

Table No.6

Dependent Variable: GCF

Method: ARDL

Date: 11/16/23 Time: 13:17

Sample (adjusted): 1994 2021

Included observations: 28 after adjustments

Maximum dependent lags: 4 (Automatic selection)

Model selection method: Akaike info criterion (AIC)

Dynamic regressors (4 lags, automatic): IMP XP FCE

Fixed regressors: C

Number of models evaluated: 500

Selected Model: ARDL(1, 4, 0, 0)

R-squared	0.989086	Mean dependent var	1.43E+10
Adjusted R-squared	0.984491	S.D. dependent var	1.04E+10
S.E. of regression	1.29E+09	Akaike info criterion	45.05450
Sum squared resid	3.18E+19	Schwarz criterion	45.48271
Log likelihood	-621.7631	Hannan-Quinn criter.	45.18541
F-statistic	215.2395	Durbin-Watson stat	1.813494
Prob(F-statistic)	0.000000		

3.3 Error Correction Representation for the selected ARDL

According to “Table 7”, the (CointEq(-1) – (λ)) represents the Error Correction Representation for the independent variables, which measures the speed of adjustment to restore equilibrium in the dynamic model has a negative sign (-0.249611) and is statistically significant (0.0000) at a 5% level, confirming that long-run equilibrium can be reached. The coefficient of CointEq(-1) is equal to (-0.921107) for the short-run model, indicating that the deviation from the long-term inequality is corrected by 92.1% annually.

Table No.7

ARDL Error Correction Regression

Dependent Variable: D(GCF)

Selected Model: ARDL(1, 4, 0, 0)

Case 2: Restricted Constant and No Trend

Date: 11/16/23 Time: 13:18

Sample: 1990 2021

Included observations: 28

ECM Regression				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(IMP)	1.200522	0.086475	13.88289	0.0000
D(IMP(-1))	-0.474131	0.100931	-4.697568	0.0002
D(IMP(-2))	-0.778693	0.097575	-7.980459	0.0000

D(IMP(-3))	-0.535467	0.122263	-4.379636	0.0003
CointEq(-1)*	-0.921107	0.131970	-6.979654	0.0000
F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	8.048659	10%	2.37	3.2
k	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66

Also, the association between the variables under consideration arises since the F-statistic (8.048659) outstrips the I1 Bound (look at the previous table). Accordingly, we reject the Null hypothesis (No association).

3.4 Bounds Test (Long run relationship between variables):

The result shows positive short and long-run connections between the imports and GCF since the imports’ coefficient is (**2.115460**), and having a positive sign and it is statistically significant (**0.0000**), meaning that if the imports increase by 1%, the GCF will rise by 2.11%.

Negative short and long-run relationships exist between final consumption expenditure and GCF as the FCE’s coefficient is (**-0.901430**). It has a negative sign and is statistically significant (**0.0001**), meaning that if the FCE grows by 1%, the GCF will fall by 0.901%. However, the finding asserts that there is only a negative short-run correlation between exports and GCF since the exports’ coefficient is (-0.092869) and statistically insignificant (0.2120).

Table No.8

ARDL Long Run Form and Bounds Test

Dependent Variable: D(GCF)

Selected Model: ARDL (1, 4, 0, 0)

Case 2: Restricted Constant and No Trend

Date: 11/16/23 Time: 13:18

Sample: 1990 2021

Included observations: 28

Conditional Error Correction Regression				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Variable	Coefficient	Std. Error	t-Statistic	Prob.
IMP	2.115460	0.251455	8.412875	0.0000
XP	-0.092869	0.071900	-1.291638	0.2120
FCE	-0.901430	0.185008	-4.872394	0.0001
C	1.84E+09	8.30E+08	2.220483	0.0387

3.5 The Diagnostic Test:

Right now, we can conduct the diagnostic test to make sure that the model is free from serial correlation, Heteroscedasticity, and ARCH effect. According to the following tables, the model is free from the mentioned problems.

Table No.9.1

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.164832	Prob. F (4,15)	0.9530
Obs*R-squared	1.178928	Prob. Chi-Square (4)	0.8816

Table No.9.2

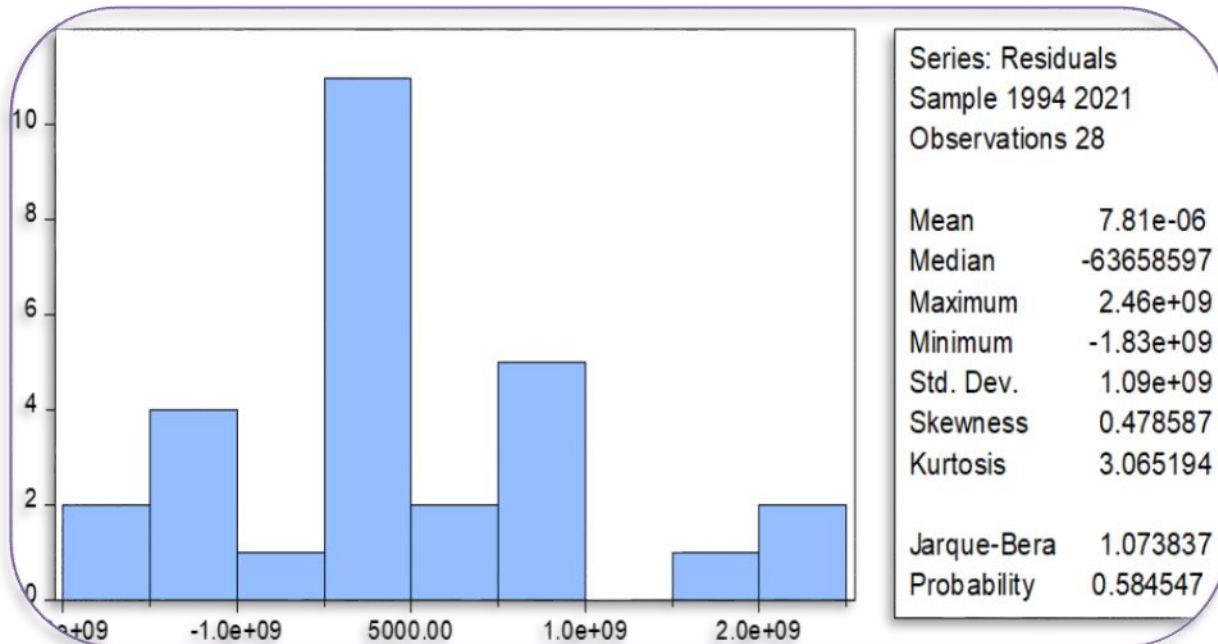
Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.710848	Prob. F (8,19)	0.6793
Obs*R-squared	6.450011	Prob. Chi-Square (8)	0.5970
Scaled explained SS	3.066778	Prob. Chi-Square (8)	0.9301

Table No.9.3

Heteroskedasticity Test: ARCH			
F-statistic	0.627864	Prob. F(4,19)	0.6485
Obs*R-squared	2.801993	Prob. Chi-Square(4)	0.5915

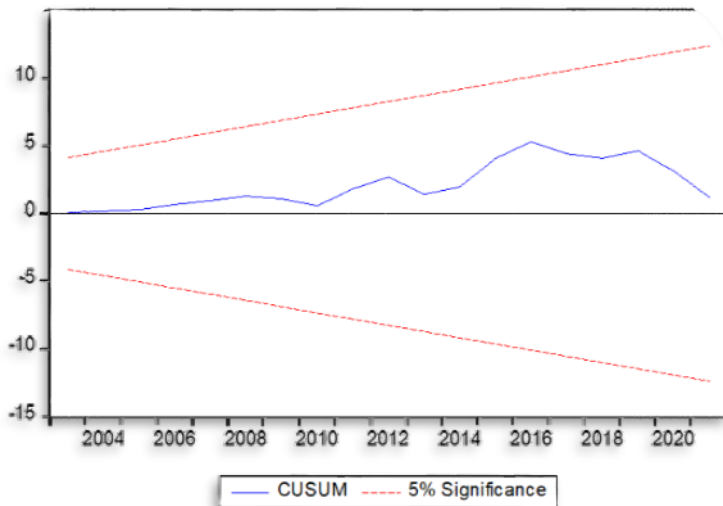
3.6 Histogram-Normality Test

Based on the below figure, the Jarque-Bera (1.073837) and its corresponding P-Value (0.584547) outstrip the 5%, and then it is evident that the residual is normally distributed.



3.7 Stability Diagnostic Test

Finally, we are forwarding to check for the model’s stability diagnostic. By watching the figures below, you can quickly uncover that the blue line lies between the 5% red lines, meaning the model is stable.



CONCLUSION

Gidigbi and Donga (2021) indicate that investment is essential for growth. The nations that have reached sustainable high growth supported the sustained drive for domestic investment. Achieving a high level of domestic investment is an undoubtful means of enabling high growth.

Oman benefits from the outstanding value of life as Oman is a harmless, contemporary, welcoming, lovely, and attractive State, with excellent global graduate schools, a vast collection of consumer goods and services, modern infrastructure, and a suitable and increasing transportation network. Geographically, it is situated just outside the Arab Gulf and the Hormuz Strait, along very active shipping paths holding a considerable portion of the world’s maritime trading traffic, with appropriate and helpful entrance and links to the Gulf, the continent of Africa, and the subcontinent;

The stable, firm, and determined investment by the Sultanate in the economy’s groundwork, including roads, airports, seaports, industrialized free zones, healthcare, education, and other facilities. (Department of State, 2014)

According to Tanfeedh (2017), Oman is laboriously conditional on oil exports; nevertheless, several natural resources could be leveraged. Oman can use these resources to improve the complementary metals, non-metals, petrochemicals, and food production industries. Omani output chain for exports frequently stops at the first upstream or midstream phases of manufacturing with no concentration on downstream industrial activities, which can push GDP up.

Moreover, the sector requires leveraging non-traditional energy sources (substitute energy). Recent gas supplies are scarce and need higher levels of output to support both downstream industries and industrial research, yet assistance of both is vital for persistent innovation and development.

So, the Omani government and the concerned people should consider the above paragraphs carefully and thoughtfully to help these variables play a helpful role in economic growth.

REFERENCES

1. CBO., (2017). Annual Report2016. [pdf]. Available at: URL: <https://www.cbo.gov/sites/assets/Documents/English/Publications/AnnualReports/AnnualReport2016>. (Accessed: 16-11-2023).
2. Chittedi, K. R. (2012). Do oil prices matter for Indian stock markets? An empirical analysis. *Journal of Applied Economics and Business Research*, 2(1), 2-10.

3. Factfish., (2018). Oman: Household final consumption expenditure (current US \$). URL:<http://www.ftp.factfish.com/statisticcountry/oman/household%20consumption%20expenditure> (Accessed:7-11-2018)
4. Gidigbi, M. O., & Donga, M. (2021). Domestic, foreign direct investment and economic growth nexus in selected African countries. *Acta Universitatis Danubius. Economica*, 17(5).
5. Hall, R. E. (1986). The role of consumption in economic fluctuations. In *The American business cycle: Continuity and change* (pp. 237-266). University of Chicago Press.
6. Hasan, A., & Nasir, Z. M. (2008). Macroeconomic factors and equity prices: An empirical investigation by using ARDL approach. *The Pakistan Development Review*, 501-513.
7. INDEXMUNDI., (2018). Household Final Consumption Expenditure, PPP (current international \$). URL:<https://www.indexmundi.com/facts/indicators/NE.CON.PRVT.PP.CD/compare?country=om> (Accessed:7-11-2018)
8. Kripfganz, S., & Schneider, D. C. (2018, September). ardl: Estimating autoregressive distributed lag and equilibrium correction models. In *Proceedings of the 2018 London Stata conference* (Vol. 9, pp. 1-33).
9. Mahdi, A. E. S. A. (2019). *Introduction to Omani Economy*. First Edition. Schlar's Press. Mauritius. ISBN: 978-613-8-91058-9.
10. Ministry of Commerce and Industry- Annual Industry Report., (2014). (Ministry of Commerce and Industry-Directorate General of Industry-Department of Industrial Information). [pdf]. Available at: URL:[.file:///C:/Users/Hp/Desktop/V/Final-Annual+Report-English+2014](file:///C:/Users/Hp/Desktop/V/Final-Annual+Report-English+2014). (Accessed: 17-11-2023)
11. Mohn, K., and Misund, B. (2009). Investment and uncertainty in the international oil and gas industry. *Energy economics*, 31(2), 240-248.
12. Nkoro, E., & Uko, A. K. (2016). Autoregressive Distributed Lag (ARDL) cointegration technique: application and interpretation. *Journal of Statistical and Econometric methods*, 5(4), 63-91.
13. Oskenbayev, Y., Yilmaz, M., & Chagirov, D. (2011). The impact of macroeconomic indicators on stock exchange performance in Kazakhstan. *African Journal of Business Management*, 5(7), 2985.
14. Öztürk, S., & ATAMER, M. (2021). Analysis of the relationship between GDP growth and foreign direct investment in underdeveloped countries: Tar model. *Anemon Mu? Alparslan Üniversitesi Sosyal Bilimler Dergisi*, 9(5), 1483-1490.
15. Rodrik, D. (1997). Trade strategy, investment and exports: another look at East Asia. *Pacific Economic Review*, 2(1), 1-24.
16. Sebastian, K., & Daniel, C. S. (2022). ardl: Estimating autoregressive distributed lag and equilibrium correction models. *TUPD Discussion Papers*, 18, 1-33.
17. TANFEEDH, (2017). *The National Program for Enhancing Economic Diversification*. [pdf]. Available at: URL: https://pemandu.org/wp-content/uploads/2023/05/2017-Oman-Tanfeedh-Handbook_English. (Accessed: 17-11-2023)
18. TRADINGECONOMICS., (2018). OMAN – Household Final Consumption Expenditure. URL:<https://tradingeconomics.com/oman/household-final-consumption-expenditure-us-dollar-wb-data.html> (Accessed:7-11-2018)
19. U.S. Department Of State., (2014). *Investment Climate Statement*. [online]. Available at: URL: <https://www.state.gov/e/eb/rls/othr/ics/2014/> (Accessed:01-05-2018)