Chapter 25
The New Arab Gulf: Evaluating the Success of Economic Diversification in the UAE

Saima Shadab

Abstract To date, the Gulf Cooperation Council (GCC) countries have remained oil-reliant, exposed to the vulnerabilities of the international oil price market. This study seeks to examine the role of economic diversification in the GCC, focusing on the UAE as a successful model. An empirical analysis is conducted to ascertain the short- and long-run relationship between diversification and economic growth in the UAE. Specifically, this study examines the role of export diversification in encouraging the UAE's Gross Domestic Product (GDP) growth. The findings reveal that economic diversification fosters economic growth in the UAE both in the short and long run. The UAE serves as a successful model of economic diversification for the rest of the GCC countries as they share a congruent economic structure.

Keywords Economic Diversification · United Arab Emirates · Economic Growth · Natural Resource Rents

25.1 Introduction

Ever since Sachs and Warner (1995) put forward their seminal work on the "Natural Resources Curse," the effect of natural resources rents on economic growth has been a topic of contention among experts. A majority of studies from existing literature have both proven and critiqued the "rentier model" of natural resource-rich countries and confirmed an inverse relationship between economic growth and natural resource rents. Here, rentier model of countries mainly refers to those countries that are largely dependent upon external rents (Beblawi, 2015). In this context, the Arab Gulf countries are categorized as rentier economies as they are dependent upon oil export revenues. Specifically, for the GCC states, the share of oil revenues is over forty percent of the total government revenues. Such countries that are abundantly endowed with natural resources tend to grow more slowly than resource-poor countries (Sachs & Warner, 2001). Despite serving as a crucial source of government

S. Shadab (✉)
Aligarh Muslim University, Aligarh, India
e-mail: sshadab_co@myamu.ac.in

M. M. Rahman and A. Al-Azm (eds.), *Social Change in the Gulf Region*, Gulf Studies 8,
https://doi.org/10.1007/978-981-19-7796-1_25

revenues, excessive reliance upon natural resource rents has negative implications and can significantly affect economic growth (Shadab, 2020). Corden (1984) coined the term "Dutch Disease," arguing that countries engaged mainly in exporting natural resources experience a lack of development in other sectors such as manufacturing. In this connection, the Gulf Cooperation Council (GCC) countries are recognized as a core example of rentier economies due to their heavy dependency on natural resources (Shadab, 2021). The six GCC countries derive economic rents mainly from natural resources, particularly oil and gas (Mim & Ali, 2020). The volatility in the price of these commodities affect the GCC countries' economic growth (Khalifa & Ibrahim, 2020). Many studies have emphasized 'economic diversification' as an essential policy to reducing dependency on natural resources. Apart from curbing dependence on oil and gas revenues, economic diversification also ensures sustainable and energy-efficient means of economic development (Hilmi et al., 2020). Such a transition is favorably aligned with the present-day global climate change and sustainable development targets.

In this light, this study attempts to examine the effects of economic diversification on growth in the GCC countries, with a specific focus on the UAE economy. Using various time-series techniques, including the Cointegration test, VECM model, and Causality tests, an empirical analysis is conducted to ascertain the short- and long-run relationship between diversification and economic growth. The study mainly seeks to determine whether the UAE economy can serve as a successful diversification model for the rest of the GCC countries to emulate.

The rest of the chapter is divided into sections. Section two discusses the GCC economies' dependence on hydrocarbon revenues. Section three summarizes the GCC's various economic development plans and diversification initiatives. Section four comprises the empirical analysis conducted to determine whether the UAE can be labeled a successful economic diversification case. The last section contains the conclusion wherein the study confirms that the UAE serves as a successful model of economic diversification for rest of the oil-exporting Gulf countries. The study is useful for policymakers and researchers as they can proceed further by examining different categories of exports or different non-oil sectors and their impact on the UAE's economic growth. This can be beneficial in examining in detail that which sectors may specifically help the UAE diversify further and attain sustainable long-run economic growth.

25.2 Role of Natural Resources Rents in the GCC States

Despite implementing several widely publicized economic development plans and diversification targets, the GCC countries still continue to rely on the hydrocarbon sector (Miniaoui, (Ed.) (2020). The main reason behind the GCC's inability to completely diversify is that most of these countries' non-oil investment projects depend on oil revenues. Presently, the GCC countries are in the process of transforming their respective traditional economic structure under which oil and gas

capture the largest share of total GDP and government revenues. To be considered diversified economies, this share has to be replaced by non-oil economic sectors that are not directly or indirectly dependent on the hydrocarbon sector, which can contribute significantly to economic growth and government income (Kabbani & Ben, 2021). In this regard, the GCC countries have been able to reduce the share of natural resources rents in the total GDP over the past several years. Therefore, the extent of natural resources rents dependency varies for each of the GCC states. The performance of the GCC states in terms of the role of natural resources rents in total GDP has been analyzed in detail in the following part of this section.

As per the latest data provided by the World Bank, among the GCC countries, the share of total natural resources rents as a percentage of GDP was the highest for Kuwait (42.65%) in 2019. The second and third largest were secured by Oman and Saudi Arabia (26.67% and 24.08%), followed by Qatar (20.72%) and the UAE (16.75). Conversely, Bahrain has the smallest share of natural resource rents to total GDP with only 3.79% in 2019. Therefore, it can be inferred from the above-stated estimates that among the six GCC countries, Kuwait is the least diversified economy, whereas the most diversified are Bahrain and the UAE. Nonetheless, it should be noted that Bahrain is endowed with comparatively fewer natural resources than the UAE, which explains the former's smaller ratio of hydrocarbons revenues to total GDP. Despite being abundantly endowed with hydrocarbons, the UAE has, over the years, diversified its economy to an appreciable extent by building a vibrant and robust business, investment, and leisure destination.

The GCC countries' reliance on the hydrocarbon sectors is vividly portrayed by Figs. 25.1, 25.2, 25.3, 25.4, 25.5 and 25.6. As evident from the figures, the economic growth of the six Gulf countries is arguably dependent on natural resources rents (as a percentage of GDP). Impressionistically, the upward and downward fluctuations in the share of total natural resource rents are reflected, more or less, by similar fluctuations in the GDP growth rate in all GCC countries (see Figs. 25.1, 25.2, 25.3, 25.4, 25.5 and 25.6). This impressionistic correlation suggests that the non-oil sectors (such as tourism, industry, entertainment hub, sports hub, transport, and communication hub.) are not the main drivers of the economic growth in the GCC countries. Their contribution to the GCC countries' economic growth remains undermined by direct or indirect dependence on the oil sector (as reflected by international prices and income).

For these and many other reasons, the GCC countries have felt the urgent need to diversify their traditional production structures into more complex economic structures to reduce dependency on the hydrocarbon sector and secure sustainable economic growth in the long run. The diversification initiatives introduced in these countries are discussed in more detail in the next section.

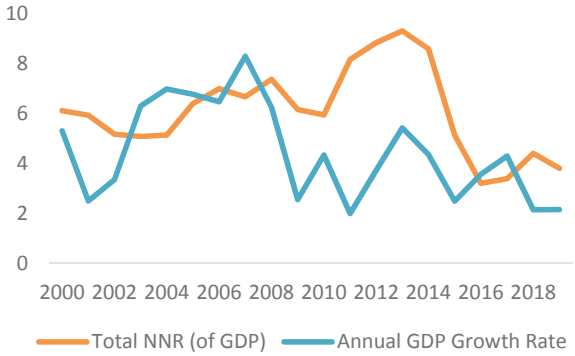

Fig. 25.1 Natural resources rents received by Bahrain (*Source* World Development Indicators, 2021)

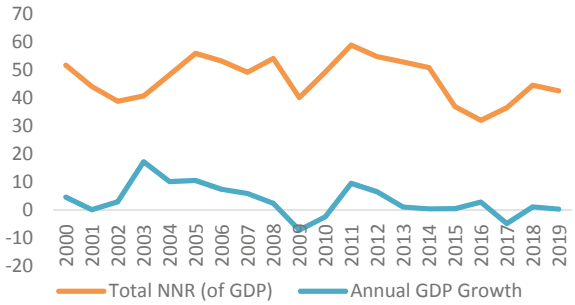

Fig. 25.2 Natural resources rents received by Kuwait (*Source* World Development Indicators, 2021)

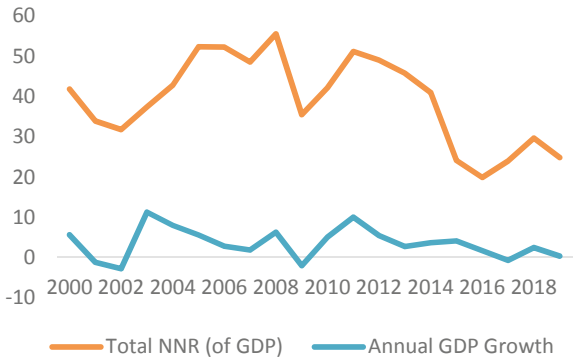

Fig. 25.3 Natural resources rents received by Saudi Arabia (*Source* World Development Indicators, 2021)

25.3 Diversification Initiatives in the GCC States

Table 25.1 summarizes the economic performance of the GCC countries through some important macroeconomic indicators. The GCC countries' percentage share of natural resources rents in the total GDP has declined considerably between the period 2000 and 2018. Among the six countries, Kuwait had secured the largest share

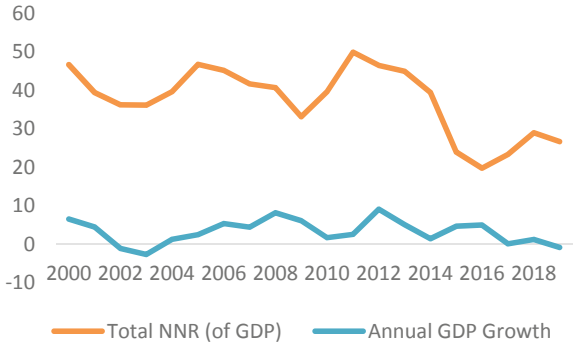

Fig. 25.4 Natural resources rents received by Oman (*Source* World Development Indicators, 2021)

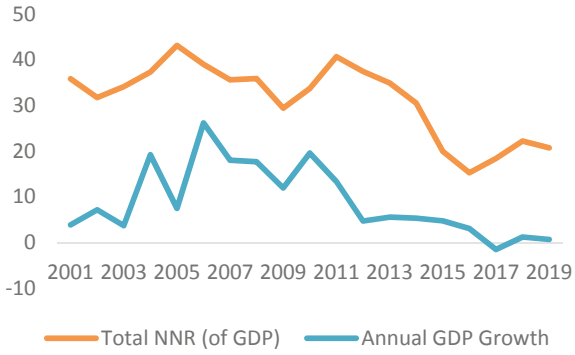

Fig. 25.5 Natural resources rents received by Qatar (*Source* World Development Indicators, 2021)

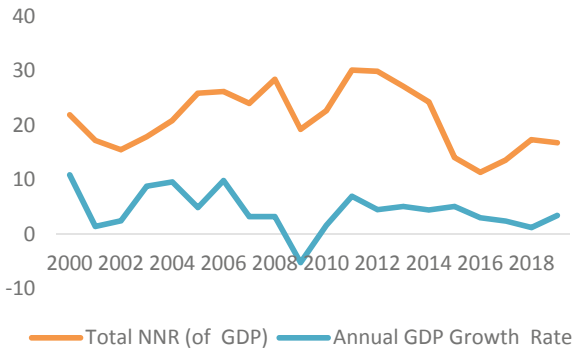

Fig. 25.6 Natural resources rents received by United Arab Emirates (*Source* World Development Indicators, 2021)

of natural resources rents (44.66%) in 2018, whereas, Bahrain secured the smallest share (4.39%) during the same year.

Kuwait also secured the largest share in terms of fuel exports as a percentage of total exports (93.05 and 91.02) during the year 2000 and 2018. This indicates that the country hasn't diversified its exports till date as compared to rest of the GCC countries. In terms of export performance, the UAE reports an appreciable decline

Table 25.1 Data for selected macroeconomic indicators of the GCC countries

Country	Total natural resources rents (% of GDP) in 2000	Total natural resources rents (% of GDP) in 2018	Share of Fuels (% of total exports) in 2000	Share of Fuels (% of total exports) in 2018	Total Population in 2000	Total Population in 2018
Bahrain	6.111296315	4.397892075	72.47	48.26	664,610	1,569,440
Kuwait	51.81570818	44.6634722	93.5	91.02	2,045,123	4,137,314
Oman	46.70241882	28.99231092	83.21	69.35	2,267,973	4,829,476
Saudi Arabia	41.81077884	29.66250967	91.79	78.63	20,663,840	33,702,757
Qatar	42.02880493	22.19538209	89.48	86.13	592,467	2,781,682
United Arab Emirates	21.90076447	17.32477033	76.25	31.34	3,134,067	9,630,966

Source Data for Natural Resources Rents (% of GDP) and Total Population was derived from World Development Indicators, 2021. Data for Share of Fuel Exports in Total Exports was derived from World Integrated Trade Solutions, 2021

in the share of fuel exports, as the share declined from 76.25% in 2000 to 31.34% in 2018. This indicates that the UAE has diversified its exports to a certain extent. With the exception of Kuwait, similar performance may be observed from Table 25.1 for the remaining GCC countries.

In terms of total population, there has been a significant upsurge in the population of all the GCC countries between the period 2000 and 2018. Saudi Arabia secures the top most position in terms of the total population as compared to rest of the GCC countries.

Since the discovery of petroleum oil, the GCC countries have channeled hydrocarbon revenues into various, arguably productive investments in non-oil sectors (e.g., industry, tourism, sports, education, etc.). These government-led investments were intended to bolster economic development. However, without strategies and frameworks to actively reduce reliance on the oil sector, the GCC economies continue to be vulnerable to fluctuations in oil prices. For instance, in periods of oil price downturns, investment projects in the non-oil sector (fueled by oil revenues) are immediately cut down to suppress economic shocks (El-Katiri, 2016; Gould & Atkinson, 2020; Kabbani & Ben, 2021). The growth and development of the non-oil sectors remain dependent on income generated by the oil sector. Another weakness of the GCC's economies lies in their industrial sectors, which remain highly concentrated around construction and petrochemical industries (Callen et al., 2014). Like the rest of the non-oil sector, most industrial production in the GCC is linked to the price stability and incomes derived from the hydrocarbons sector (El-Katiri, 2016; Samman & Jamil, 2021; Vohra, 2017).

Since oil is a highly volatile commodity, in terms of its fluctuating price and exhaustible nature, the GCC countries have been contemplating economic diversification since the 1980s. The ongoing shale revolution and shift in energy demand patterns make it even more urgent for the GCC to curb its reliance on the hydrocarbons sector. Over the past few decades, the GCC governments have introduced various economic diversification initiatives and development plans. The following section briefly summarizes these current efforts:

Bahrain: Bahrain is relatively the least resource-rich economy in the GCC. Yet, the Bahraini government is still largely dependent on the hydrocarbons revenues as a share of its total revenues. Presently, the economy faces serious issues such as low productivity, low wage rate, and low-skilled labor accompanied by weak job creation and growth driven by the public sector (Nakibullah, 2018). These challenges make economic diversification essential for Bahrain. In 2008, the government announced *Economic Vision 2030* as an economic diversification initiative that emphasizes the development of the private sector, creating jobs, attracting FDI, and building a 'knowledge-based' economy. In 2019, Bahrain also announced the implementation of VAT to obtain alternative sources of government income apart from oil.

Kuwait: Even among the six GCC states, Kuwait's economic structure is highly concentrated within the oil sector. The share of hydrocarbons in Kuwait's total GDP is the largest compared to the rest of the bloc. In 2010, Kuwait announced its own diversification agenda, *State Vision Kuwait 2035,* along with its first public five-year development plan. Kuwait remains heavily reliant on the hydrocarbons sector and lags far behind other GCC countries in economic diversification (Al-Sarihi, 2020). The population is largely composed of low-skilled expatriates who are engaged in the private sector (Gulf Bank Economic Research Unit, 2020). As per latest data provided by the World Population Review, non-Kuwaiti nationals account for almost 70% of the total population in Kuwait. Most Kuwaiti nationals are employed by the public sector, which has consequently become overutilized and burdened. The same above-cited Gulf Bank report also highlighted that Kuwaiti national reportedly lack the skills and trainings needed to contribute productively to the high-skill private sector jobs.

Oman: Like Saudi Arabia, Oman has long emphasized economic diversification. Oman was the second GCC country to focus on diversification as an essential development target when it announced *Oman 2020: Visions for Oman's Economy* in 1995. The main emphasis of this strategy was to expand the role of the private sector, ensure human resource development, and boost the skills and knowledge of Omani nationals. To a certain extent, an overall transformation was attained through Vision 2020 through a significant increase in the per capita GDP, jobs in the public and private sector, and contributions of non-oil sectors. However, the economy still remains exposed to vulnerabilities of the oil market. In 2015, the government implemented *Vision 2040* to address structural issues prevalent in the economy and problems related to human resource development. Climate change mitigation and encouraging the role of women were also other major focus areas, as outlined in *Vision 2040* (Oman Vision, 2040, 2019; Al-Sarihi, 2020).

Qatar: Unlike other countries in the bloc, Qatar is planning for a situation of plentiful hydrocarbons. The country holds abundant gas reserves and sufficient oil reserves to keep production going for 40 years (Hvidt, 2013). The Qatari government announced its first plan to diversify under *National Vision 2030* in 2008. Alongside this overarching strategy, the government released five-year development plans dealing with economic diversification goals. These plans collectively aim for 'suitable economic diversification,' which is understood as a diversified economy that gradually reduces its dependence on hydrocarbon industries, enhances the role of the private sector and maintains its competitiveness.

Saudi Arabia: The Saudi government was among the first GCC countries to announce economic diversification as one of its development targets. It did so in its first five-year development plan in 1970. However, it should be noted, after recovering from oil price crises the government seems to lose its diversification focus and revert to relying on oil revenues (Niblock, 2008). Nonetheless, in 2014, the shale oil and gas revolution that led to one of the most severe oil gluts reinstated Saudi Arabia's urgency to diversify. Accordingly, the country's tenth development plan issued in 2015 refocused government efforts on diversification. This was followed by the *National Transformation Plan: Vision 2030*, released in 2016, to devise strategies to diversify away from the oil sector. Given that oil revenues constitute the largest share of the government's total revenues, the Saudi Arabian government introduced Value Added Tax (VAT) in 2018 to diversify government income sources.

United Arab Emirates: The United Arab Emirates (UAE) is currently regarded as the most diversified economy in the GCC. Over the years, the UAE has managed to significantly reduce reliance on the hydrocarbons sector for GDP growth and government income. Oil sector's share in the total GDP of the UAE has declined considerably over the past years. From 46.9% in 1980, the oil sector's share in the total GDP of the UAE has declined to as low as 16.75% in 2019. The UAE has implemented various development and diversification initiatives such as the *Vision 2021* (announced in 2010). The UAE primarily focused on becoming one of the largest financial, business, and tourist hubs in the world and has also managed to emerge as the fastest growing investment destination in the Middle East region (Gulf News Report, 2021). The government has also actively imposed different indirect taxes to obtain non-oil revenues, such as VATs and excise taxes.

25.4 Can the UAE Serve as a Successful Model of Economic Diversification?

An important objective of this study is to empirically examine the short- and long-run relationship between economic growth and diversification in the UAE. Such an analysis will reveal whether the UAE can serve as a successful diversification model for the rest of the GCC countries. The time period under consideration for

this investigation is 1995–2017. Details related to the macroeconomic variables are summarized in Table 25.2.

Table 25.2 Descriptive summary of variables

Variable	Abbreviation Used	Definition	Source
Gross Domestic Product at Constant 2010 US $ Prices	LGDP	LGDP has been set as the dependent variable in the model. It has been used as a proxy variable for measuring economic growth in the UAE	World Development Indicators
Herfindahl Hirschman Index (HHI)	LED	It is a proxy variable for measuring the degree of export diversification. The Herfindahl Hirschman Index (HHI) is one of the most widely used indicators to examine economic diversification within a country or region. It ranges from zero to one, wherein, values near to zero indicate complete or greater degree of diversification and values close to one indicate less or no diversification. It is often assumed that the HHI will have an inverse effect on economic growth. A decrease in HHI (i.e., a decrease in export concentration and greater diversification) should result in an increase in the economic growth of UAE, which in turn would imply a higher level of export diversification and vice versa	UNCTAD
Value added by the manufacturing sector as a percentage of GDP	LPD	LPD is a proxy variable used for measuring the production base of a country	World Development Indicators
Domestic credit to private sector as a percentage of GDP	LPS	LPS is regarded as a proxy variable for measuring the size of private sector of a country	World Development Indicators

Figure 25.7 graphical plots all the variables employed in the analysis. Figure 25.7a shows the trend of the UAE's GDP over the period 1995–2017. It may be observed from the figure that the UAE's GDP has shown an increasing trend over the period 1995–2017. Further, the trend of LPD as shown in Fig. 25.7b reveals that the share of the UAE's manufacturing sector in total GDP has been subject to instabilities. The share of LPD was the highest (13.06% of total GDP) in 2001. However, this declined to 8.78% in 2017. Nevertheless, the contribution of the UAE's manufacturing sector in the GDP has been satisfactory over the period 1995–2017. A similar pattern and trend may be observed for the role of LPS in the UAE's total GDP from Fig. 25.7c. The Herfindahl Hirschman Index (HHI) is one of the most widely used indicators to examine economic diversification within a country or region. As seen in Fig. 25.7d, the export concentration index for UAE (HHI) depicts a continuous decline throughout the period 1995–2017. This means that over the years, UAE exports have diversified and are less concentrated within the oil sector. It is a normalized index that measures a country's export products (excluding services). The index ranges from zero to one. Higher values or values closer to one imply a greater concentration of exports within a sector. In contrast, lower values or values close to zero imply a lesser concentration of exports within a sector and, therefore, a greater degree of economic (or export) diversification. With this, the study now proceeds to conduct the empirical analysis.

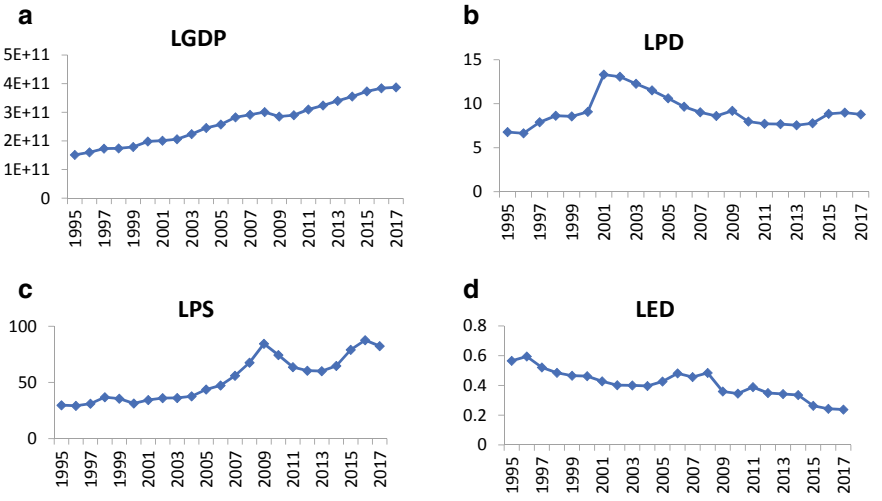

Fig. 25.7 Selected macroeconomic indicators in UAE, 1995–2017: **a** Log of GDP in UAE over the Period 1995–2017; **b** Log of Value added by the manufacturing sector as a percentage of GDP in UAE over the Period 1995–2017; **c** Log of domestic credit to private sector as a percentage of GDP in UAE over the Period1995–2017; **d** Log of Herfindahl Hirschman Index in UAE over the Period 1995–2017. (*Source* Data from World Development Indicators, World Bank, 2018; and HH Index of UAE, 1995–2017 *Source* Extracted data from United Nations Conference on Trade and Development [UNCTAD, 2018])

Since this study includes a model consisting of time trend (t), a simple regression analysis will lead to misleading and unreliable results due to non-stationarity. Therefore, keeping the issue in consideration, this study employs the Augmented Dickey-Fuller (ADF) unit root test. Results from the model's ADF unit root test at level and first difference form of the variables reveal that all the variables are non-stationary at their level form. However, the series is found stationary at first difference with highly significant p-values. This confirms that all the variables are integrated of order 1, allowing the series to be tested for cointegration. Since this study consists of small time-series data, the optimal lag length suggested by Schwarz Information Criterion (SIC) under the Vector Auto-regressive (VAR) lag order selection criteria test is three. For analysis purpose, this lag length has to be subtracted by one in order to obtain the optimal lag length. Therefore, with two as the optimal lag length, the study further estimates the VAR model as it ensures that the series is normally distributed, and free of heteroscedasticity and serial correlation.

With this, the study proceeds to test the long-run relationship between diversification and economic growth of the UAE using the Johansen Cointegration test. This Cointegration test allows ascertaining the co-movement between economic diversification and economic growth in the UAE. Economic Diversification and Export Diversification have been used interchangeably and are represented by the most widely used diversification indicator, Herfindahl Hirschman Index (HHI). Findings from the Johansen Cointegration test reveal that the null hypothesis of no cointegration among the variables is rejected at a five percent level of significance. The p-values of the hypothesized number of cointegrating equations at the five percent level of significance are less than the critical values. Therefore, the Cointegration test results confirm the existence of a long-run relationship between economic growth and export diversification in the UAE.

The long-run relationship among the variables was examined using the Johansen Cointegration test. Therefore, the study proceeds to examine the short-run relationship among the variables in the model using the Vector Error Correction Model (VECM). As evident from the results shown in Table 25.3, the Error Correction Term (ECM) obtained is highly significant at −0.14. This term indicates that the model pulls back to its equilibrium state following an exogenous shock. The p-value of the ECM term is highly significant as it is 0.0011% and is much less than five percent. The significance of this term reveals and confirms the existence of long-run relationship among the variables incorporated in the model. It is also found that the ECM term is negative, which is an essential condition, required for the variables to converge at equilibrium in the long run.

The coefficients of the variables are also displayed in Table 25.3. The values of coefficients determine the short-run relationship between the dependent variable (LGDP) and the independent variables (LED, LPD, LPS). It may be observed that the coefficient of the export diversification variable, i.e., LNHHI is positive.

In the VECM test, the sign (positive or negative value) of the coefficients must be interpreted in the opposite way. For instance, coefficients of the independent variables with a positive sign denote that there is a negative relationship between the dependent and independent variable. From Table 25.3, it can be inferred that

Table 25.3 VECM test results dependent variable: LGDP Lags = 2

Variables	Coefficients	Standard Errors	T-statistics
ECT*	−0.142890 (0.0011)**	0.031705	−4.506900
Δ LED	3.279868	0.25239	12.9951
Δ LPD	0.783815	0.13117	5.97554
Δ LPS	1.298612	0.17296	7.50799
C	−30.07002		

R-squared: 0.79%. Adjusted R-squared: 0.61%. F-statistic: 4.304196. Prob(F-statistic): 0.016210. *ECT refers to Error Correction Term

** Indicates P-value of the ECT. Δ indicates first difference

the value of the independent variable LED is positive. This indicates that there is an inverse relationship between the dependent variable economic growth (LGDP), and the independent variable export concentration (HHI). This finding is consistent with similar studies (Al-Marhubi, 2000; De Ferranti et al., 2002; Osakwe & Kilolo, 2018; Hinlo & Arranguez, 2017; Mudenda & Chigamba, 2014; Shadab, 2021) that found a negative relationship between HHI and GDP. A plausible explanation behind the feasibility of this inverse relationship result is that the export diversification measure used here is the HHI index. As stated earlier, the HHI reflects the degree of concentration of exports in a country. Therefore, a decline in the HH Index implies greater degree of economic diversification and vice versa. In Table 25.3, results obtained from the VECM reveal that a one percent decline in the export concentration (LED) would lead to a 3.27% increase in the GDP of UAE. The value of t-statistic for LED is 12.9%. The standard rule in this regard is that the value of t-statistic must be greater than 1.96% for obtaining a strong and significant relationship between the dependent and independent variable. Since the value of the t-statistic for LED is 12.9%, it can be stated that there is a highly significant and inverse relationship between LED and GDP in the UAE. This implies that export diversification has a significant impact upon the UAE's economic growth.

Further, a significant but negative relationship is found between the value added by the manufacturing sector (LPD) and economic growth (LGDP) in the UAE. A similar negative and significant relationship is also found between the LPS and LGDP. These findings are against the traditional theoretical studies that have put forward a positive relationship between a country's manufacturing sector, private sector, and economic growth. A positive relationship was expected between LPD and GDP as well as between LPS and GDP. However, the negative relationship between these two variables and economic growth indicates the effects of the Dutch disease on the UAE economy. The negative relationship between economic growth (LGDP) and manufacturing sector and domestic credit to private sector indicates concentration of the manufacturing industry with petrochemicals and construction industries that are subject to oil price volatilities and poor economic strategy. Therefore, although the economic diversification positively impacts economic growth of the UAE, the

Table 25.4 VECM granger causality test results

DEPENDENT VARIABLES				
Independent Variables	Δ LGDP P-value	Δ LPD P-value	Δ LPS P-value	Δ LED P-value
ΔL GDP	–	0.3464 (2.120505)	0.0001 (19.74528)	0.0437** (6.260148)
ΔL PD	0.0196** (7.865412)	–	0.8296 (0.882826)	0.2333 (2.910717)
Δ LPS	0.4790 (1.472144)	0.8197 (0.397739)	0.4736 (1.494795)	0.1562 (3.712958)
Δ LED	0.0008*** (14.27242)	0.8910 (0.230848)	0.7038 (0.702478)	–
All Variables	0.0001*** (28.54324)	0.5084 (5.280353)	0.7329 (8.645358)	0.0901* (10.94377)

Note *, ** and *** indicates significance at 10%, 5% and 1% levels of significance. Δ refers to change

country still needs to put forward policies to ensure the positive contribution of the industrial and private sector in its economic growth. Further, the negative relationship between LPS and LGDP indicates that the role of private sector needs stimulation in the appropriate target areas which the UAE government must identify in order to achieve the desired significant contribution of financial development (specifically to the private sector) to GDP, as stated in a study by Heshmati and Haouas, 2014.

In order to examine the short-run directional/causal relationships between the variables, the study proceeds further to conduct the VECM Granger Causality test (Table 25.4).

Table 25.4 summarizes results obtained from the VECM Granger Causality test. The results reveal that a short-run bidirectional causal relationship exists between economic growth and diversification in the UAE. This further implies that export diversification does impact economic growth and vice versa in the short-run. In other words, this indicates that the UAE has successfully attained economic diversification and lesser reliance on the oil sector for boosting the economic growth. Further, it is also found that a unidirectional relationship was found between economic growth (LGDP) and manufacturing sector (LPD). Lastly, a unidirectional relationship was found between domestic credit to private sector (LPS) and economic growth (LGDP).

The reliability and fitness of the short-run results are checked by running diagnostic tests of Normality, Heteroscedasticity, and Serial Correlation. The model is normally distributed, homoscedastic, and not serially correlated. Therefore, the results derived are fit and reliable.

25.5 Conclusion

Despite laying out different economic development and diversification initiatives, the GCC countries remain largely dependent on the hydrocarbons sector. Total natural resource rents continue to significantly contribute to the GCC states' total GDPs. This dependency on oil and gas to derive fiscal revenues and attain economic growth leaves the GCC states vulnerable to oil price shocks and severe economic downturns. Moreover, the ongoing shale revolution has made diversification an urgent need for the GCC economies. Owing to these challenges, the GCC countries have focused on expanding non-oil sectors such as tourism, finance, manufacturing, and education. Consequently, the countries have managed to attain overall improvement in the economic performance of different non-oil sectors. However, reliance on the oil sector continues to remain a pertinent issue that needs to be addressed.

Of the six GCC states, the UAE has presently emerged as an appreciable model of economic diversification. The study examines the impact of economic diversification on economic growth in the UAE to ascertain whether the UAE economy can serve as a unique diversification model for rest of the GCC. Results obtained from the Cointegration, VECM, and Granger Causality test confirm that export diversification plays a significant role in boosting the UAE's economic growth. The Granger Causality test results also indicate that private sector, particularly the manufacturing sector, causes economic growth of the UAE. However, the VECM test results revealed that the impact of both the sectors is still negative. Therefore, the UAE economy should continue to focus on expanding and developing the manufacturing sector as well the private sector to enable them positively to contribute to the UAE's economic growth in the future.

References

Al-Marhubi, F. (2000). Export diversification and growth: An empirical investigation. *Applied Economics Letters, 7*(9), 559–562.

Al-Sarihi, A. (2020). Oman's shift to a post-oil economy. In *Economic development in the Gulf cooperation council countries* (pp. 125–140).

Beblawi, H. (2015). The rentier state in the Arab world. In *The Arab State* (pp. 85–98). Routledge.

Callen, M. T., Cherif, R., Hasanov, F., Hegazy, M. A., & Khandelwal, P. (2014). *Economic diversification in the GCC: Past, present, and future*. International Monetary Fund.

Corden, W. M. (1984). Booming sector and Dutch disease economics: Survey and consolidation. *Oxford Economic Papers, 36*(3), 359–380.

De Ferranti, D., Perry, G. E., Lederman, D., & Maloney, W. E. (2002). *From natural resources to the knowledge economy: Trade and job quality*. World Bank.

Dickey, D. A., & Fuller, W. A. (1979). Distribution of the estimators for autoregressive time series with a unit root. *Journal of the American Statistical Association, 74*(366a), 427–431.

El-Katiri, L. (2016). *Vulnerability, resilience, and reform: The GCC and the oil price crisis 2014–2016* (p. 10). Columbia Center on Global Energy Policy.

Gould, T., & Atkinson, N. (2020). *The global oil industry is experiencing a shock like no other in its history*. International Energy Agency, 1.

Granger, C. W. (1988). Some recent development in a concept of causality. *Journal of Econometrics, 39*(1–2), 199–211.
Gulf Bank Economic Research Unit. (2020). *The expat debate in Kuwait: A balancing act in which technology and skills form the Key to the Solution.* Gulf Bank. https://www.e-gulfbank.com/en/media/expat-demographics-in-kuwait-070720-27704_v10_tcm27-27704.pdf
Gulf News Report. (2021). *UAE retains its lead as Middle East's fastest-growing investment destination.* https://gulfnews.com/business/uae-retains-its-lead-as-middle-easts-fastest-growing-investment-destination-1.82093842
Haouas, I., & Heshmati, A. (2014). *Can the UAE avoid the oil curse by economic diversification?*. Available at SSRN 2406325.
Hilmi, N., Farahmand, S., & Shehabi, M. (2020). Climate agreements' implementation through energy transition and economic diversification in Kuwait. In *Economic development in the Gulf cooperation council countries* (pp. 19–42).
Hinlo, J. E., & Arranguez, G. I. S. (2017). *Export geographical diversification and economic growth among ASEAN Countries.*
Hvidt, M. (2013). *Economic diversification in GCC countries: Past record and future trends.*
Johansen, S. (1992). Cointegration in partial systems and the efficiency of single-equation analysis. *Journal of Econometrics, 52*(3), 389–402.
Kabbani, N., & Ben Mimoune, N. (2021). Economic diversification in the Gulf: Time to redouble efforts. *Brookings Doha Center, Briefing Policy, January, Doha, Qatar*.
Khalifa, A. A., & Ibrahim, A. J. (2020). Why Gulf rentier economies must pursue economic diversification. In *Economic development in the Gulf cooperation council countries* (pp. 191–208).
Mim, S. B., & Ali, M. S. B. (2020). Natural resources curse and economic diversification in GCC countries. In *Economic development in the Gulf cooperation council countries* (pp. 1–18).
Miniaoui, H. (Ed.). (2020). *Economic development in the Gulf cooperation council countries: From rentier states to diversified economies* (Vol. 1). Springer Nature.
Mudenda, C., Choga, I., & Chigamba, C. (2014). The role of export diversification on economic growth in South Africa. *Mediterranean Journal of Social Sciences, 5*(9), 705–705.
Nakibullah, A. (2018). Economic diversification in Bahrain. *Applied Economics and Finance, 5*(5), 67–74.
Niblock, T. (2008). Saudi Arabia's economic development: Ambitious visions, difficult dilemmas. *Journal of Middle Eastern and Islamic Studies (in Asia), 2*(2), 13–31.
Oman 2040. (2019). Oman vision 2040. https://www.2040.om/en/#Oman2040. Accessed October 5, 2021.
Osakwe, P. N., & Kilolo, J. M. (2018). What drives export diversification? New evidence from a panel of developing countries. *UNCTAD Research Paper*, *3*.
Sachs, J. D., & Warner, A. (1995). *Natural resource abundance and economic growth.*
Sachs, J. D., & Warner, A. M. (2001). The curse of natural resources. *European Economic Review, 45*(4–6), 827–838.
Samman, H. A., & Jamil, S. A. (2021). Does falling oil prices impact industrial companies in the gulf cooperation council countries? *The Journal of Asian Finance, Economics, and Business, 8*(2), 89–97.
Shadab, S. (2020). Economic diversification in the Gulf cooperation council countries: A case study of the United Arab Emirates. [Unpublished Doctoral Dissertation]. Aligarh Muslim University.
Shadab, S. (2021). The nexus between export diversification, imports, capital and economic growth in the United Arab Emirates: An empirical investigation. *Cogent Economics & Finance, 9*(1), 1914396.
Sims, C. A. (1986). Are forecasting models usable for policy analysis? *Quarterly Review*, *10*(Win), 2–16.
UNCTAD. (2018). HH concentration index by country.
Vohra, R. (2017). The impact of oil prices on GCC economies. *International Journal of Business and Social Science, 8*(2), 7–14.

World Development Indicators. (2021). http://datatopics.worldbank.org/world-development-indicators/

Saima Shadab is currently working as Assistant Professor of Economics at Aligarh Muslim University, India. She has conducted her research on "Economic Diversification in the Gulf Cooperation Council Countries." She mainly specializes in Middle East Economics, Development Economics, International Trade, and advanced Econometric Analysis.