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The Impact of Economic Diversification on Supply Chain of Government Revenues: The Application on Gulf Cooperation Council Countries

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Abstract- **This paper examines and analyses evidence pertaining to economic diversification in the six countries (Kingdom of Saudi Arabia, United Arab Emirates, Oman, Qatar, Kuwait and Bahrain) comprising the Cooperation Council for the Arab States of the Gulf (GCC) countries (2005_2017). The purpose of the paper is to test to what extent these countries have recognized the importance of economic diversification in the process of the supply chain of government revenue and hence what are the measures adopted aiming at improving government revenue. Based on the evidence, the paper goes on to identify the determinants of economic diversification in the GCC countries. This paper uses recent growth theories and statistical techniques to empirically test for the association between economic diversification and supply chain of government revenue from the point of contribution from GDP in the GCC countries. Results obtained from data analysis indicate a strong relationship between economic diversification and supply chain of government revenue in the panel of the GCC. This result supports the endogenous growth hypothesis; at least for this group of countries. The Gulf Cooperation Council (GCC) countries share specific structural economic features. They depend heavily on the hydrocarbon sector, which was reflected in key macroeconomic indicators in 2014, as accounts for high budget receipts at 84 percent and approximately 69 percent of total GCC exports. Despite the huge accumulated financial surplus and the GCC governments' investment in their economies, outcomes have fallen short of targets set out in their national visions, while the challenges of economic diversification persist. The overarching focus will be on the challenges of diversification in terms of strategic planning, policy-making, implementation, and global best practices. This study is expected to critically evaluate the current diversification strategies and underline some key assumptions that could lead, at a later stage, to the development of a new mode of diversification in the GCC context.**

Keywords: *Capital Formation, Economic diversification, Entropy Index, supply chain, Government Revenue.*

1. Introduction

Economic diversification strategies are being increasingly implemented by countries that are vulnerable to climate change and whose economies are driven primarily by sectors that are sensitive to climate change and mitigation policies, such as tourism, agriculture, fisheries, forestry and energy production. In this context, countries diversify their economies either by expanding to new industrial sectors or by promoting adaptation measures in vulnerable sectors to increase resilience within those sectors. Traditionally, economic diversification has been used as a strategy to transform the economy from using a single source to multiple sources of income spread over primary, secondary and tertiary sectors, involving large sections of the population. The objective has always been to improve economic performance for achieving sustainable growth and high profit in the supply chain of government revenue; for example, building resilience against fluctuations in extra-regional economic activity [1], reducing vulnerability to income loss due to volatility of the product price on the international market, creating job opportunities and alleviating poverty. Saudi Arabia introduced personal income, capital gains, and corporate taxes in 1950 on both nationals and non-nationals as a way to boost the supply chain of government revenue. Within six months of introduction, however, the tax law was reformed to exclude nationals and in 1975, income taxes on foreigners were suspended. Kuwait introduced a corporate tax in 1955, and then other GCC countries followed suit. UAE introduced taxes in the mid-1960s and Oman in the early 1970s. Corporate taxes in the GCC, however, were reduced substantially during the first decade of this century to promote foreign direct investment (FDI). Most countries established free zones and introduced tax holidays, thus further reducing effective tax rates on foreign corporations. There are no taxes on wage

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income for either nationals or non-nationals. However, two countries—Qatar and Saudi Arabia—have very limited income taxes on non-GCC-nationals that carry out business or professional activities. Realizing that economic diversification contributes positively to economic performance, much of the economic and sustainable growth policy discussion revolves around the development of strategies designed to induce greater economic diversification [2]. Studies are continuously being undertaken by researchers to understand the complexities, linkages and performance of implemented economic diversification policies, including: developing and testing reliable empirical methods to measure economic diversification; understanding the performance of various determinants driving economic diversification; and understanding the effect of various policies on sustainable development (e.g. impact on labor market, employment generation, and export growth). However, owing to the complexity created by differing national circumstances, standardized conclusive strategies are not advised; there are only lessons learned from experience to be tested and followed up on. The difference between the countries and the sectors affect the diversity of bilateral trade [3]. They are considered to be the most relevant and robust determinants of export and import diversity, once GDP per capita is controlled [4]. These findings are consistent with an earlier study that showed that contribution through the GDP, total capital formation, exports and imports by different sectors (through bilateral and multilateral trading arrangements, i.e. trade liberalization) is key determinants of diversification [5].

2. Literature Review

2.1 Supply Chain of Government Revenue

GCC governments have been relying largely on oil revenues to finance their expenditures. Oil revenues accounted for between 50 and 90 percent of total supply chain of government revenues during 2012–15 across the six countries compared with an average of 24 percent for a comparator group of countries. Non-oil tax revenues averaged only about 1.7 percent of GDP (about 3 percent of non-oil GDP) during the same period. The large and rapid decline in oil prices has led to sharp cuts in GCC government spending and a slowdown in economic activity since 2015. Despite these efforts and projected

reforms, the fiscal deficit for GCC countries is projected to widen to 11 percent in 2016 and to remain above 4 percent of GDP in 2021. In view of these fiscal deficits, and given the expectation that oil prices will stay low, GCC countries have appropriately begun to extend fiscal reforms to diversifying budgetary revenues. Initial efforts have focused on raising some fees in 2015–2016, while intensifying preparations to overhaul and broaden tax structures. Negotiations among GCC governments of two agreements relating to the implementation of VAT and excise taxes on tobacco and sugar-sweetened beverages (SSBs) have led these efforts. In addition, member countries have been exploring a multitude of measures to raise additional revenue through other taxes and fees, including introducing or expanding the implementation of the business profit tax, taxes on remittances, taxes on income and wages paid to foreign workers, and taxes on financial transactions. The United Arab Emirates (UAE) is the Centre for international business in the Gulf region with strong international trade status and huge state-owned investment fund invested in real and financial assets. Higher oil prices, increased government spending and a notable resurgence in tourism, transport and trade have contributed to the upswing in the economy. Additionally, the successful restructuring of debt owed by high-profile companies, harmony among the emirates and accommodative monetary and fiscal policies have all played a role in bringing stability to the market. Political confusion in the Middle East and North Africa has not impacted negatively on the UAE's economic growth since it is considered to be one of the most politically stable and secure countries in the area and relatively safe place for tourism and investment. Virtually all national individuals and companies in the GCC are subject to Zakat, which is levied at 2.5 percent of net worth. All GCC countries except Bahrain impose non-oil corporate income taxes. These range from 10 percent in Qatar to 20 percent in Saudi Arabia and apply only to foreign companies, except in Oman, where the tax applies at a 12 percent rate on taxable income (in excess of a threshold) for both national and foreign-owned companies. Tax relief for losses and tax incentives are provided to foreign companies which lower the effective tax rate. The tax on companies engaged in petroleum and natural gas extraction ranges from 15 percent in Kuwait to 85 percent in Saudi Arabia and UAE (irrespective of nationality). Bahrain and Saudi Arabia impose monthly fees on foreign workers to finance training for nationals. Oman has a similar scheme, but determines the fee as a percent of the foreign worker wage

bill. UAE imposes biannual work permit fees, while Kuwait imposes a tax on the annual net profits of Kuwaiti companies listed on the stock market to fund training. Qatar is the only country that does not impose any fees or taxes on wages for the training of national labor force.

2.2 Economic Diversification

In order to build resilience to the adverse impacts of the implementation of response measures, economic diversification has been included in the development plans of the Gulf Cooperation Council (GCC) countries [6]. The concern about the impacts of the implementation of response measures is greater in countries that have a narrow export profile and are highly vulnerable to response measures owing to new demands or standards from importers. In this context, economic diversification is a matter of concern for countries that exhibit the following two characteristics: A significant percentage of their total exports is concentrated on only a few products or services (high concentration index); Demand for those few products or service is likely to drop as a result of climate change mitigation measures in other countries (affected by response measures). There are many factors other than the impact of the implementation of response measures that drive economic diversification. Because many of these factors act simultaneously, they need to be understood holistically. In addition, the factors may vary by national circumstances, and are more quantitative determinants at the firm level. The World Bank reviewed various drivers of economic diversification in various studies and grouped them into three categories: economic reforms, structural factors and macroeconomic variables. A recent study on 212 exporting firms classified the drivers as internal and external; internal drivers include export commitments and the experience level of staff and the structure of human resources; while external drivers include competitive intensity and distances between the export firms and markets [7]. In addition, structural factors, including a country's population, human capital and quality of institutions, have a positive impact on economic diversification. Diversification increases with increasing population as local firms have access to a larger market and thus benefit from economies of scale. Human capital allows economies to change their specialization patterns from primary commodities towards a more knowledge-intensive manufactured goods. Political and economic

institutions foster business confidence and cultivate the development of new business activities by creating a friendly investment environment. In general, the indices can be classified into two groups: one group that measures a country's absolute specialization (e.g. ogive index, entropy index, Herfindahl-Hirschmann index, Gini index, diversification index); and a second group that measures a country's economic structure from a reference group of industries (e.g. Thiel index, relative Gini index, inequality in productive sectors). Indices that measure absolute specialization indicate the level of specialization in a country (e.g. if a small number of industries exhibit high shares of the overall employment of the country or the income of the country). For example, Italy specializes in textiles, most GCC countries in oil products, Scandinavian countries in the production of pulp and paper, and most developing countries in agriculture and food products. Therefore, this study employs the country's absolute specialization using the entropy index as a measure.

2.2.1 The Contribution of the Economy Sector on GDP

Studies to establish the relevance of income to diversification have long been present in the literature. However, a non-linear relationship between them was first introduced in 2003 by [8], who studied the stages of diversification through econometric analysis. The study detected an inverted U-curved relationship between the diversification of products and gross domestic product (GDP) per capita. The findings revealed that low-income countries have a very specialized production structure. As countries' levels of GDP per capita increase, the sectorial distribution of economic activity diversifies. This diversifying trend decreases with rising GDP per capita and after a turning point, which takes place at a very high level of income, the sectorial distribution exhibits re-specialization. The turning point between specialization and diversification was generally found to be near the income level of USD 10,000 per capita in 1985. Later, many studies focused on studying this relationship using different data sets, mostly by regressing export concentration and GDP per capita, and found the same trend [8], [9]. There is a similar trend between the number of new export products and GDP. These studies have important implications for GCC countries. As pointed out in a joint study conducted by the United Nations and the Organization for Economic Co-operation and Development (OECD) on the African economy, these findings add weight to the case for diversification and

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serve as a caution against the hasty pursuit of specialization when economic growth levels are not sufficiently high [10]. A high share of capital investment, as a percentage of GDP, has a positive impact on diversification. Trade liberalization (i.e. the removal or reduction of barriers to trading between countries) facilitates competition and investment and contributes to creating jobs and increase in income [11]. Trade liberalization or open access to markets is usually measured as a ratio of exports and imports to GDP. Trade liberalization brings benefits to consumers because of the availability of imported products at low cost. Companies also benefit by having more opportunities to export. These constitute short-term gains during the economic crisis. Long-term gains come from the reallocation of lab our resources across sectors and from labor productivity growth. Access to open markets also has positive impacts on the total factor of productivity, thus increasing the number of firms that are capable of exporting and hence providing the potential for increased export diversification [12]. A recent study using a steady-state model observed that trade openness had a positive impact on export performance in OECD member countries.

2.2.2 Exports by Sector

Firms are heterogeneous in their productivity levels and only the most productive ones become exporters [13]. As firms begin to export, they initially face higher costs as a result of their lack of knowledge and experience. Their production decreases during this period. Eventually, as diversification of the export market moves beyond a threshold level and investments cumulate, export market expansion results in lower average costs in the long run and thus higher productivity. This forms a U-shaped relationship between export diversification and firm productivity [14]. Economic diversification has been found to affect different sectors differently depending on the choice of the investor in selecting the sector through foreign direct investment (FDI). Exportation accelerates structural transformation by fostering diversification in key low-tech industries such as agro-industry and textiles and raises the average quality of manufacturing exports. However, there is strong evidence that FDI affects the sectorial composition of manufacturing employment and increases the horizontal diversification of exports. The actual magnitude of the effect varies greatly across

countries depending on the existing stock and the stage of diversification, giving rise to an almost inverted U-shaped relationship. Terms of trade are represented by the ratio of the price of exporting goods and services (index of export prices) to that of importing goods and services (index of import prices). Higher terms of trade may raise export concentration as factors of production are reallocated to the few main sectors for which output prices have increased. On the other hand, higher terms of trade can lead to greater export profitability and result in higher diversification.

Diversification of exports is also affected by export volume in a monopolistic competition scenario. The ratio of exports to domestic products is directly related to the ratio of exports to domestic consumption or sales. Therefore, export volume also affects the diversity of exports. Economic diversification and growth of non-extractive sectors and economic competitiveness are important development objectives of resource-rich countries and many development banks, including the World Bank. However, there is neither the common definition of diversification nor metrics to measure it. International organizations monitor and publish diversification index values for countries around the world. Empirical research on international trade, international specialization patterns and concentration indices continues and uses a wide array of statistical tools, ranging from simple descriptive indicators to complex econometric techniques. Yet there seems to have been no agreement on which index is best, although the empirical results depend heavily on the statistical methods and measures employed. Access to finance is measured as the share of domestic credit to the share of private sector credit in GDP. The value can be extracted from the World Development Indicators database of the World Bank. Firms obtaining financial services have positive impacts on export diversification. Small and medium-sized enterprises' access to finance has been identified as a strong constraint and many policies and initiatives are being implemented to improve access [15]. Many developing countries are over-dependent on the export of only a few types of commodities (e.g. many LDCs are dependent upon different agricultural commodities and many African and GCC countries are resource-dependent). The country is affected if those sectors (i.e. the agriculture sector and the resources sector) suffer economically as a result of response measures in their key target markets. To summarize, the export sectors that might be vulnerable to

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the impacts of response measures include: conventional oil, gas and coal fuels; renewable energy technologies; consumer goods subject to eco-labeling and standards, including agriculture sector products; energy-intensive trade-exposed goods (aluminium, iron and steel, cement, chemicals, and pulp and paper); air-freighted goods; tourism; and marine-transported goods, including bulk agricultural commodities, such as cocoa.

2.2.3 Imports by Sector

The World Trade Organization also lists the UAE as the world's twenty-fifth importer based on UAE imports of Dh752.35 billion (US$205 billion) in 2011, 1.1 percent of the world's imports of US $18.38 trillion. Continued growth in trade is the result of the UAE's determined policies of opening new markets, engaging new trade partners and increasing economic diversification. An official release by the UAE National Bureau of Statistics highlights that in the first nine months of 2012, non-oil trade increased from Dh684.9 billion in the same period in 2011 to Dh782.7 billion in 2012, up 10.5 percent. Exports were up by 61 percent from Dh84.4 billion to Dh136.6 billion and imports rose by 12.3 percent (from Dh439.9 billion to Dh494.5 billion) in the same period, then the value of the re-exports dropped by 5 percent to Dh152.6 billion. Non-Arab Asian countries (45 percent), maintained their position as leading partners in UAE non-oil trade, the EU came second (23 percent), America was ranked third (9.3 percent) and the GCC fourth (8 percent). Gold tops both the import and exports with diamonds leading re-exports. The key elements of the Dubai model of economic development are the following: 1) government-led development, 2) fast decision making "fast-track" development, 3) a flexible labor force through importing expatriates.

[16] Provides a useful distinction by dividing the manufacturing sector into two categories: oil-based and import substitution industries. In addition to the extraction of oil and gas, the oil-based industries include refineries, the vast petrochemical sector and energy-intensive industries such as aluminum. As the study points out, oil-based industries are usually large-scale and capital-intensive projects and as such generally state-owned. The import substitution industries include a diverse set of activities, most commonly food processing and the manufacture of construction materials. The latter includes

the production of cement, steel, aluminum window frames, building cladding etc. These industries are usually small, lab our intensive and often privately owned. Diversification through the establishment of import substitution industries is potentially much closer to the original aim of divesting away from oil. It also holds a much better prospect of survival after the oil era, if this industry has been accustomed to operate under market conditions during the oil era; that is, if it does not rely on favorable production conditions provided by the circulation of oil money in society. This, however, does not seem to be the case. Diversification within the oil sector, however, by expanding the oil-based industries, has been the most notable outcome of efforts in the Gulf States. It has been relatively easy for the states to do, giving the capital surplus situation and centralized governance structure, as has been the case with state-owned cement factories etc. The most difficult type of industry to foster has been the private import substitution sector. This cannot be created by decree, but necessitates entrepreneurship and private risk taking.

2.2.4 Total Fixed Capital Formation based on Sector

To analyze the structure of the investment distributed among the different diversified sectors, it is noticed that the non-oil sector played the major role of the constitution of Gross Fixed Formation which is consistent with the contribution of these sectors to GDP. Gross Fixed Capital Formation in the United Arab Emirates decreased to 296297.26 AED Million in 2016 from 340110.84 AED Million in 2015. Gross Fixed Capital Formation in the United Arab Emirates averaged 209518.22 AED Million from 2001 until 2016, reaching an all-time high of 340110.84 AED Million in 2015 and a record low of 100944.50 AED Million in 2001. Foreign direct investment can affect growth and development directly by contributing to gross fixed capital formation, and through several indirect channels which constitute the externalities associated with FDI. The direct channel does not favor FDI over other types of investment and would not in and of itself justify costly incentives for attracting it without providing the same incentives to domestic direct and foreign portfolio investment. Through the indirect channels, however, FDI is often argued to additionally affect various parts of the host economy, and in turn spur growth.

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The potential additional domestic portfolio financing can be a positive externality leading to crowding in, but may also have negative financial crowding out effects on domestic investments when the supply of domestic financial resources is scarce. Along the same lines, when FDI brings in a product already produced in the local market, the foreign affiliate enters into a competitive position with domestic industry and may crowd out some of the demand for local investment. Notwithstanding issues of efficiency and competition, this will in isolation has a negative impact on domestic gross fixed capital formation. The reverse case of crowding in can also be true in case the FDI introduces a new product into the host economy and creates a demand for locally produced intermediate goods which did not exist before.

2.3 The Impact of Economic Diversification on Government Revenues

A significant volume of literature has dealt with GCC economic diversification from different perspectives [17]. The shift from oil dependence to economic diversification in the GCC countries underscores the economic risks associated with the renter state theory [18] and the [19] theory, which argues that natural resource windfalls often result in weakening other sectors due to currency appreciation and the attractive high profits in the resource sector. The economic risk of Dutch Disease supports such analysis as oil revenues tend to quickly crowd out any other economic activity; hence diversification is a means of controlling risks in GCC countries. For GCC countries, the aim of economic diversification is not only to minimize the negative impact of oil price fluctuations; it is also a necessity as a diversified economy tends to be more stable and has the capacity to create jobs while being less susceptible to the boom and bust cycle of oil and gas prices. Such necessity has put diversification at the very core of economic development strategies and planning since the mid-1990s [20]. This is clearly evident in the national visions, where each GCC country stresses the importance of promoting entrepreneurship and supporting and increasing the role of the private sector in the economic development process.

Evidence of diversification may be seen in the decline in the share of oil and gas in GDP from 41 percent in 2000 to 33 percent in 2013 and increased spending on industrial infrastructure across the region, with UAE's spending increasing by over 400 percent, particularly in aviation, aerospace and defense, in the past three years. This is also evident in the rising share in GDP of the services and financial sectors, as well as the huge investments in education, healthcare, water, communications, transportation, tourism, and other non-hydrocarbon sectors. In the energy sector, diversification is facilitated by investment in renewable and alternative energy sources such as solar, carbon capture and storage, and clean technology. In food security, the GCC countries have strengthened their agro-security by the acquisition of large areas of farmland outside their own national borders and investing heavily in major agricultural projects in Sudan, Ethiopia, Egypt, Turkey, Ukraine, Kazakhstan, Philippines, and Brazil. However, economic diversification is facing significant challenges across the region. Most GCC countries suffer from weak institutions, lack of coordination between policymaking and policy implementation, small and ineffective private sectors, lack of innovation and limited investment in research and development, poorly skilled national workforces incapable of meeting the demands of the private sector, inefficient legal and regulatory systems and lack of accountability and transparency. The analysis also shows that severe implementation issues in the education, labor and trade sectors, as well as fundamental weaknesses in the GCC economic structure, negatively affect economic diversification. What remains important here is not whether diversification will succeed or fail, but how GCC countries will address the main challenges of diversification. To conceptualize the theoretical background, this study explores the linkages between supply chain of government revenues and economic diversification as the dependent variable and independent variable respectively. The economic diversification is measured by the contribution of the economic sector in GDP, exports by sector, imports by sector and total fixed capital formation based on the sector (entropy index) within the context of six countries (Kingdom of Saudi Arabia, United Arab Emirates, Oman, Qatar, Kuwait and Bahrain) belonging to the Cooperation Council for the Arab States of the Gulf (GCC) countries. Figure 1 below presents the theoretical framework of the study.
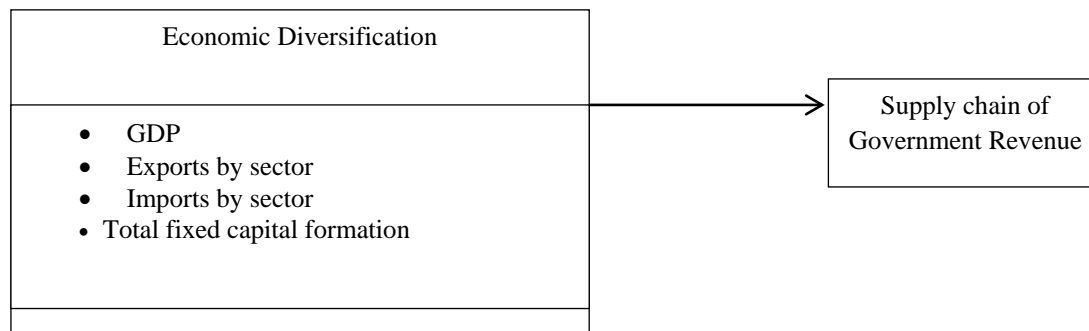
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Figure 1: Conceptual framework Model linking economic diversification and supply chain of government revenue

3. Methodology

There have been numerous studies by regional economists that have attempted to develop measures of economic diversity and statistically test whether changes in a region's industrial structure are related to its economic stability and performance. To test these hypotheses, researchers have constructed various scalar measures of regional economic diversity using different economic theories. Similarly, various measures of economic performance and instability have also been constructed. Variability in regional exportation, importation, fixed capital formation are the most popular measures of economic stability, while the level of unemployment and real per capita income growth are commonly used to account for regional economic performance. Different economic theories tend to result in different concepts, terms, and measures of economic diversity. According to Industrial Organization Theory, a more diversified sector (i.e., less concentrated) is assumed to be more competitive. A region with a greater number of sectors and/or a more even distribution of economic activity is associated with higher diversity. Based on this definition, measures of concentration ratios, such as the Entropy indexes, have been used as measures of economic diversity. This theory assumes that the organization of the industrial sector in a country accounts for its level of economic diversification. A greater number of sectors in a country represent less market concentration meaning higher diversification. More diversified sectors (i.e. less concentrated) are more competitive. The common empirical methods under this theory are the ogive index, the entropy index, the Herfindahl-Hirschmann index and the Gini index, which

measure absolute specialization. In the case of this study, an entropy index is employed. The entropy index, also called the Shannon entropy index (SEI), compares the existing economic activity distribution among industries in a country with an equi-proportional distribution, and is calculated as the negative sum of employment shares multiplied by the natural logarithm of employment shares of each single industry, as follows:

$$entropyindex = \sum_{i=1}^{n} Si \ln (1/Si) \ = - \sum_{i=1}^{n} Si \ln (Si)$$

Where the number of sectors, Si is the share of economic activity in the industry and ln is the natural logarithm. Considering that equally distributed economic activity is considered more diverse, higher entropy index values indicate greater relative diversification, while lower values indicate greater relative specialization. If employment is used as an indicator of economic activity, the equal distribution of employment among all industries will result in a higher entropy index. The minimum value of zero would occur if employment were concentrated in one industry (i.e. maximum specialization).

4. Result and Analysis

This chapter discusses the empirical evidence on the association between supply chain of government revenue and economic diversification in the six countries

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(Kingdom of Saudi Arabia, United Arab Emirates, Oman, Qatar, Kuwait and Bahrain) present in the Cooperation Council for the Arab States of the Gulf (GCC). The linear regression analysis result was reported in the case of each country. In this study, R2 is used often to examine the goodness-of-fit of the model. [19], [20] stated that the higher the value of the R2, the greater the fit of the model. The significance of the fit of the regression model is evaluated using F value. The significance of the fit model using the F-value can be evaluated in two ways: first, by comparing the F-value to the table value; secondly, by using the significant value and comparing the value to the alpha value, which is set at 0.05<0.10in this study. In order for the model to be supported, the significant value should be less than or equal to 0.10 level of significance.

Based on the regression result of economic diversification in Bahrain as presented in Table 1, the coefficient on GDP

revealed a significant negative sign with a value of -1.413 and z-value of -0.96. This result of negative sign of gross domestic product (GDP) means the supply chain of government revenue reduced by 0.355. Hence, GDP presence increases the abundance of supply chain of government revenue. Also, the coefficient of exports by sector (EXP) revealed a positive and significant sign at the level of 95% of value 0.544. This implies that the level exportation within different sectors significant and thereby has a good outcome on the supply chain of government revenue of listed companies in Bahrain. The import of sector (IMP) showed a positive and significant coefficient (0.263) and z values of 0.44. That is, a one percent increase in the importation will lead to 0.669increases in supply chain of government revenue. With respect to fixed capital formation (FCF), the coefficient (-0.418) is negatively significant at one percent level of significance (-0.960).

Table 1- Regression analysis of economic diversification in Bahrain

	Coef.	Robust Std. Err.	t	P>|t|	95% Conf. Interval	
GDP	-1.413194	1.468256	-0.96	0.355	-4.612249	1.785861
EXP	0.5443536	0.229858	2.37	0.036	0.0435368	1.04517
IMP	0.2630639	0.599770	0.44	0.669	-1.043723	1.569851
FCF	-0.4182099	0.4334205	-0.96	0.354	-1.362552	0.5261324
_cons	5.895196	2.718588	2.17	0.051	-0.0280973	11.81849

Furthermore, Table 2 presents the Regression analysis of economic diversification in United Arab Emirates (UAE).The coefficient result in GDP in UAE revealed a significant negative effect with coefficient of -427667.60and z-value of -4.77. This result suggests that the presence of gross domestic product (GDP) reduced the value of supply chain of government revenue by 0.000. Hence, GDP presence makes no significant change to the supply chain of government revenue. The coefficient on exports by sector (EXP) of value 78862.42 revealed a

positive and significant sign at the level of 95%. This implies that the presence of exportation in the UAE has a significant effect on supply chain of government revenue. The import by sector (IMP) showed a positive and significant coefficient 139398.3) and z value of 0.85. That is, a one percent increase in the importation will lead to 0.414 increases in the supply chain of government revenue in UAE. On the other hand, in fixed capital formation (FCF) has a coefficient of -166019.7 which is negatively significant at the one percent level of significance (-0.95).

Table 2- Regression analysis of economic diversification in United Arab Emirate

	Coef.	Robust Std. Err.	t	P>|t|	95% Conf. Interval	
GDP	-427667.6	89645.59	-4.77	0.000	-622988.6	-232346.7
EXP	78862.42	30637.98	2.57	0.024	12107.98	145616.8
IMP	139398.3	164850.8	0.85	0.414	-219780.9	498577.4
FCF	-166019.7	173926.1	-0.95	0.359	-544972.1	212932.7
_cons	1051483	449909	2.34	0.038	71215.48	2031750

According to the regression result in Table 3 that shows the economic diversification in Kuwait. The coefficient of GDP is revealed to be -0.815which shows that the relationship is significantly negative and z-value of -2.82. This result shows that the value of GDP in Kuwait reduced the supply chain of government revenue by 0.016. Hence, GDP if present would have improved the amount of generated revenue by the government. The coefficient on exports by sector (EXP) revealed a positive and significant sign at the level of 95%. This implies that the presence of sectors that exports goods and services has a significant effect on the supply chain of government revenue generated from listed companies in Kuwait. The importation from a sector (IMP) showed a positive and significant coefficient (0.590) and z values of 2.09. That is, a one percent increase in the importation services will lead to 0.016 increases in revenue generated from the imported goods to Kuwait. With respect to fixed capital formation (FCF), the coefficient (0.2769) is positively significant at the one percent level of significance (0.90).

Table 3- Regression analysis of economic diversification in Kuwait

	Coef.	Robust Std. Err.	t	P>|t|	95% Conf. Interval	
GDP	-.8149753	0.2893264	-2.82	0.016	-1.445363	-0.1845872
EXP	1.004933	0.3407538	2.95	0.012	0.2624945	1.747372
IMP	0.5900344	0.2825236	2.09	0.059	-0.0255317	1.205601
FCF	0.2769202	0.3085703	0.90	0.387	-0.3953968	0.9492372
_cons	4.501402	.6414167	7.02	0.000	3.103875	5.898929

Based on the regression result in Table 4, the coefficient on GDP revealed to be significant and negative with coefficient of -0.885and z-value of -3.20. This result suggests that the presence of negative signs for gross domestic product (GDP) means reduction on the supply chain of government revenue by 0.008 in Oman. Thus, the GDP of Oman has reduced along the year. However, the coefficient on exports by sector (EXP) revealed a positive and significant relationship with government revenue at the level of 10% with the values of 1.106 for coefficient and 2.91 for z-value. The import by sector (IMP) showed a positive and insignificant coefficient (0.123) and z values of 0.376. That is, one percent increase in the importation by sector will lead to 0.750 decreases in the supply chain of government revenue. With respect to the fixed capital formation (FCF), the coefficient (-1.242) is negatively significant at ninety-five percent level of significance. This implies that the presence of fixed capital has a significant effect on government revenue in Oman.

	Coef.	Robust Std. Err.	t	P>|t|	95% Conf. Interval	
GDP	-0.8850178	0.276992	-3.20	0.008	-1.488531	-.2815041
EXP	1.106423	0.3801663	2.91	0.013	.2781121	1.934735
IMP	0.1226858	0.3762507	0.33	0.750	-0.697094	0.9424656
FCF	-1.242383	2.570225	-0.48	0.638	-6.842421	4.357656
_cons	5.479291	2.109316	2.60	0.023	0.8834865	10.0751

Based on the regression result of economic diversification of Qatar in Table 5 below, the coefficient of GDP revealed a significant negative sign with the coefficient of -0.269and z-value of -0.38. This result suggests that the gross domestic product (GDP) reduced the value of government revenue along the years by 0.714. Hence, the increase in GDP indicates improvement of the government revenue. The coefficient of exports by sector (EXP) revealed a negative and significant effect. This implies that less exportation was made enough to have no significant effect on the supply chain of government revenue in Qatar. The import by sector (IMP) showed a positive and significant coefficient (1.319) and z values of 0.20. That is, a one percent increase in the importation will lead to 0.843increases in the government revenue. With respect to fixed capital formation (FCF), the coefficient (-1.044) is negatively significant at the one percent level of significance (-1.90).

Table 5- Regression analysis of economic diversification in Qatar

	Coef.	Robust Std. Err.	t	P>|t|	95% Conf. Interval	
GDP	-0.2696008	0.7177487	-0.38	0.714	-1.833441	1.294239
EXP	-0.4725553	0.5267789	-0.90	0.387	-1.620308	0.6751973
IMP	0.2669648	1.319511	0.20	0.843	-2.608003	3.141933
FCF	-1.044189	0.5496782	-1.90	0.082	-2.241834	0.1534575
_cons	7.229891	4.080307	1.77	0.102	-1.660334	16.12012

Based on the regression result in Table 6, the coefficient on GDP revealed a significant negative sign with the coefficient of -0.04and z-value of -1.15. This result indicates that the presence of the gross domestic product (GDP) reduced the value of government revenue by 0.272. The coefficient of exports by sector (EXP) revealed a positive and significant sign at the level of 10%. This implies that exportation has a significant effect on the supply chain of government revenue. The import by sector (IMP) showed a positive and significant coefficient (0.183) and z values of 0.69. That is, a one percent increase in the imports will lead to 0.502 increases in the supply chain of government revenue. With respect to fixed capital formation (FCF) the coefficient (-1.426) is negatively significant at the one percent level of significance (0.046).

Table 6- Regression analysis of economic diversification in Saudi Arabia

	Coef.	Robust Std. Err.	t	P>|t|	95% Conf. Interval	
GDP	-0.0400159	0.0347694	-1.15	0.272	-0.115772	0.0357402
EXP	0.1185284	0.1133789	1.05	0.316	-0.128503	0.3655599
IMP	0.1837865	0.2657211	0.69	0.502	-0.39517	0.7627431
FCF	-1.426458	0.6403193	-2.23	0.046	-2.821594	-0.0313219
_cons	8.003449	1.78228	4.49	0.001	4.120195	11.8867

5. Conclusion and Recommendation

The economy of a country is vulnerable to the adverse impact of response measures if it is dependent upon the export of a narrow range of products and those products are affected by response measures taken to combat the economic recession. Economic diversification is one of the means that can be used to build resilience to the adverse impacts of the supply chain of government revenue and policies that have been implemented to mitigate economic recession [21]. Poor countries initially diversify as they grow, but they start to specialize once they reach higher income levels. This means that poor countries have a wider scope of diversification than economies with higher income levels. For a government to plan export and import diversification, a systematic plan with a mix of extensive and intensive margins is required. An extensive margin with a correction of sustainable products at a later stage helps as diversification is driven more by the extensive margin, but export growth is driven more by the intensive margin [22].

There is no clear consensus on the measures that are necessary to achieve economic diversification. The most important step that a government can take is to focus on getting the fundamentals right; that is, to maintain macroeconomic stability through the fixed capital formation, export, import and GDP, invest in infrastructure, improve the business climate, encourage private investment and invest in people, especially in education at all levels. At the same time, it is true that most of the countries mentioned in this study that have well-diversified industries were aggressive imitators of the technology of more advanced economic powers. All those countries expanded their basket of exports and imports by plundering technology. On the other hand, the economy sector of GDP is taken as one of the basic good-governance prerequisites for development. Encroachment on the imports and exports of advanced countries is now fought more vigorously than ever before. This shows that supporting technology transfer along with skills development is an important aspect of economic diversification that cannot be neglected [23].

6. Recommendations

In the long term, international support can be provided in the form of public sector investment. Almost all governments are already making investments and support

is typical for official development assistance programming. Certainly, more support is needed, given the results of any diagnostic assessment, and should be focused on countries that are vulnerable to the impacts of response measures. Policies have to be planned on the basis of national circumstances, on a case-by-case basis, taking into consideration geographical location and available skills, technology, resources, etc. In conclusion, there is a need to conduct more region- and sector-specific studies to support developing country Parties in their economic diversification initiatives.

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