Economic Diversification and Government Sustainable Supply Chain Governance: An Empirical Approach on Government Expenditure of Iraq

Mohammed Dhannoon Mohammed[1]

[1]*Finance and Banking Department, College of Administration and Economics, University of Mosul, Iraq*

[1]`mohammeddhannoon78@gmail.com`

Hassnain Raghib Talab[2]

[2]*Accounting Department, College of Administration and Economics, University of Kufa, Iraq*

[2]`hassninr@yahoo.com`

Oday Salim Ali[3]

[3]*Finance and Banking Department, College of Administration and Economics, University of Mosul, Iraq*

[3]`Odaysalim2004_2005@yahoo.com`

Abstract- **This paper examines and analyses evidence pertaining to economic diversification and government sustainable supply chain governance in the Iraqi government expenditure from 2004 to 2016. The purpose of the paper is to test to what extent the government has recognized the importance of economic diversification and government sustainable supply chain governance in the process of growth of government revenue and hence what are the measures adopted aiming at improving government revenue. Based on evidence, the paper goes on to identify the determinants of economic diversification and governance in the Iraq. This paper uses recent growth theories and statistical techniques to empirically test for the association between economic diversification (gross domestic product (GDP), importation, exportation and total fixed capital formation), governance (political stability, quality regulation, effective government, control of corruption, rule of law and accountability) and government expenditure. Results obtained from data analysis indicate a strong relationship between economic diversification and government expenditure. However, the relationship between Iraqi governance and government expenditure revealed a significant relationship which shows that increase in the budget for effective governance did not apparently lead to quality improvement in the government expenditure. Iraq as part of the countries under the Gulf Cooperation Council (GCC) shares specific structural economic features. The country depends heavily on the hydrocarbon sector despite the huge accumulated financial surplus and the government's investment on the economy; outcomes have fallen short of targets set out for the national visions, while the challenges of economic diversification and governance continue. The overarching focus will be on the challenges of diversification in terms of strategic planning, policy-making, implementation, and global best practices. This study revealed that to achieve these goals, the government in the whole world needs to improve and maintain the government expenditure by diversifying into the economic gross domestic product (GDP), importation, exportation and total fixed capital formation.**

Keywords: *government expenditure, economic diversification, sustainable supply chain governance, economic growth, GDP*.

1. Introduction

With the world's second largest oil reserves, Iraq is potentially a very prosperous country. Like many other oil-dependent countries, however, Iraq's recent history points to a pattern of authoritarianism, corruption, political instability and violence. The US administration has portrayed its occupation of Iraq as an effort to break with this pattern and ensure democracy, security and a shared prosperity for Iraqis. This study therefore engages with the challenges of governance and economic diversification in Iraq, focusing on the role of accountability, quality regulation, and rule of law and control of collision and diversification of resources. Iraq's political legacy, oil dependence and transition under post-US occupation suggest that the new Iraqi regime may once again rest on corruption-based patronage; but of a type more accommodating to US interests.

Economic diversification strategies are being increasingly implemented by countries that are

567

Int. J Sup. Chain. Mgt   Vol. 7, No. 6, December 2018

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 government revenue; for example, building resilience against fluctuations in extra-regional economic activity, reducing vulnerability to income loss due to volatility of product price on the international market, creating job opportunities and alleviating poverty.

Governance encompasses the state, but it transcends the state by including the private sector and civil society organizations. In countries where electoral processes exist, the state is composed of an elected government and an executive branch. Sustainable supply chain governance 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 and cut the expenditure of the country short. Therefore, the policy paper lists the major functions of the state: being the focus of the social contract, it defines citizenship; being the mandated authority it controls and exerts force, and is responsible for public services. It creates an enabling environment for sustainable human development, meaning establishing and maintaining stable, effective and fair legal-regulatory frameworks for public and private activities, ensuring stability and equity in the marketplace, mediating interests for the public good and providing effective and accountable public services. How well any government functions hinges on how good citizens are at making the government accountable for their actions. Difference between the countries and the sectors affect the diversity of bilateral trade. They are considered to be the most relevant and robust determinants of export and import diversity, once GDP per capita is controlled. 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.

The purpose of the study is to examine empirically the effect of Economic diversification and sustainable supply chain governance on government expenditure. This major objective is divided into twofold as follows:

To examine the impact of economic diversification (importation, exportation, GDP, total fixed capital formation) on government expenditure.

To investigate the effect of sustainable supply chain governance (Accountability, Political Stability , Effective Government, Quality Regulation, Rule of Law, Control of Corruption) on government expenditure [19], [20].

2. Literature Review
2.1 Government Expenditure

The Republic of Iraq is a country emerging from conflict and facing the challenge of reconstructing core physical infrastructure and delivering public services to 34 million people. Its gross domestic product (GDP) per capita was estimated at US$6,305in 2012, putting Iraq in the category of middle-income countries. Its economy is dominated by oil: Iraq produces about 3.0 million barrels per day, and crude oil accounts for nearly half of GDP and over 90 percent of total exports. The contribution of non-oil sectors is relatively small both in GDP and in exports, and the role of the private sector in the economy is very limited. Decades of conflict and sanctions have left the Iraqi economy, institutions, and infrastructure in tatters. While efforts are under way to repair and replace damaged infrastructure and institutions, progress is hampered by politics, lack of security, and the sustainable supply chain governance environment. There has been progress in reconstructing water supply systems, sewage treatment plants, electricity production, hospitals and health clinics, schools, housing, and transportation systems, but there remains a lot more to be done. The conflict post-2003 had a particularly severe impact on the economy: the oil export infrastructure was either damaged or vandalized; large factories, especially those connected with the military, were destroyed; and energy production plants, production laboratories, and water supply and sanitation systems were damaged. In addition, the conflict caused a significant exodus, including public sector workers, weakening public sector capacity and institutions [17], [18].

Public spending, including capital investment, is necessary to repair and rehabilitate the Iraqi economy, but the government has faced challenges to prioritize and implement a capital investment program. As a resource-rich economy, Iraq has considerable resources in the form of oil receipts to finance a capital investment program. At the same time, the country also faces several challenges that arise from this situation in the form of "resource curse," "Dutch disease," and heightened tensions over who controls these resources. A large body of literature on oil-rich economies underscores several

568

Int. J Sup. Chain. Mgt   Vol. 7, No. 6, December 2018

salient characteristics of these economies. A central feature is the concept of a "resource curse, "the paradox that countries with an abundance of natural resources like oil tend to have less economic growth and worse development outcomes than countries with fewer natural resources. While this could happen for many different reasons, four factors are especially important:

• First, excessive dependence on oil revenues makes these countries highly vulnerable to abrupt changes in international oil prices.

• Second, a great majority of oil-rich countries fail to diversify their economies because of Dutch disease, a situation where a booming oil export industry causes rapid currency appreciation, which in turn undermines the competitiveness of other sectors, notably agriculture and manufacturing, in the world markets.

• Third, the oil funds are prone to embezzlement, corruption, and wasteful and inefficient public spending, because of weak institutions and lack of accountability. Weak institutions and accountability are in turn rooted in the fact that citizens pay little or no taxes (as oil rents finance most public spending) and less taxation of citizens implies less accountability and less public scrutiny of public spending in general.

• Finally, oil resources can, and often do, provoke conflicts within societies, as different groups and factions fight for their share, and this could in turn undermine political stability and economic development.

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 Gulf Cooperation Council (GCC) countries. The concern about the impacts of the implementation of response measures is greater for 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 [21].

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 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. give 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 entropy index as a measure.

2.2.1 Importation of Goods and Services

Gross international reserves have continued to accumulate. Following significant losses between 2008 and 2009, Central Bank of Iraq's gross international reserves increased from US$50.6 billion at the end of 2010 to US$70.3 billion at the end of 2012. In the context of increasing oil prices and production, Iraq's reserves are estimated to increase to above US$77 billion by 2013. Reserve coverage in months of imports of goods and services was at 9.3 in 2012.

The public distribution system (PDS) has suffered challenges regarding the quality and quantity of items, inefficiencies in the distribution system, and sometimes limited access to the population due to the lack of security. The main aspects of inefficiencies include: (i)weaknesses in procurement and financial management, which leave the system vulnerable to waste, theft, and corruption; (ii) lack of targeting of the food rations to the poorest segments of Iraq's population; (iii) the high dependence on the PDS as a major source of food is inherently a source of vulnerability, as disruptions in

food distribution often lead to acute food insecurity; and (iv) the food items in the basket are mostly imported; and the food baskets have been heavily subsidized—they are virtually free.For economic affairs, Support for agriculture is a case in point. Iraq is heavily dependent on imported food to satisfy local demand. The country faces a number of challenges in the agriculture sector. Iraq's agriculture sector is under increasing pressure to feed its population, which is growing at an annual rate of more than 2.8 percent. The country will need much more than the current US$5 billion to import basic food to meet the annual shortages, for as long as required by domestic production, to achieve sustained growth. The sector's low productivity and growth rates are attributable to (i) past policies when the government maintained artificially low food prices through price and production controls and marketing restrictions, combined with (ii) years of insufficient maintenance and funding, which have degraded agricultural services and physical infrastructure, particularly the irrigation network.

2.2.2 GDP Contribution

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 [1], 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 [2]. There is similar trend between the number of new export products and GDP. 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 [3]. 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 economic crisis. Long-term gains come from the reallocation of labour resources across sectors and from labour productivity growth [4]. 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. A recent study using a steady-state model observed that trade openness had a positive impact on export performance in OECD member countries.

2.2.3 Formation of Total Fixed Capital

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 sector to GDP. Gross Fixed Capital Formation in the Iraq decreased to 296297.26 IQD Million in 2016 from 340110.84 IQD Million in 2015. Gross Fixed Capital Formation in Iraq averaged 209518.22 IQD Million from 2001 until 2016, reaching an all-time high of 340110.84 IQD Million in 2015 and a record low of 100944.50 IQD 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.

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 are 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 have 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.

2.2.4 Exportation of Goods and Services

Firms are heterogeneous in their productivity levels and only the most productive ones become exporters. As firms begin to export, they initially face higher costs as a result of their lack of knowledge and experience. Their production decreases in 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

570

Int. J Sup. Chain. Mgt   Vol. 7, No. 6, December 2018

and thus higher productivity. This forms a U-shaped relationship between export diversification and firm productivity.

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.

There is neither 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 (International Finance Corporation, 2013; European Commission, 2016). 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 the impacts of response measures include: conventional oil, gas and coal fuels; renewable energy technologies; consumer goods subject to eco-labelling 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.

2.3 Sustainable Supply Chain Governance

According to the 1997 policy paper, sustainable supply chain governance is the exercise of economic, political and administrative authorities to manage a country's affairs at all levels. It comprises mechanisms, processes and institutions, through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences. Sustainable supply chain governance has "three legs": economic, political and administrative. Economic governance includes decision-making processes that affect a country's economic activities and its relationships with other economies. Political governance is the process of decision making to formulate policy. Administrative governance is the system of policy implementation. A new report – jointly published by UN Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and the Small Island Developing States and the UNDP (2009b) – provides a slightly different version. Democratic governance is a political system that incorporates into the notion of good governance, not only efficient processes, but also principles and institutions that secure the civic rights and freedoms of all people, including the poorest of the poor and marginalized groups.

Furthermore, any idea of good governance that values human progress must logically satisfy one of two criteria. At the very least, it must not retard development, and at best should contribute to its advancement. As a conceptualization of democratic governance that is fundamentally normative, it aims to be coherent and generally acceptable. Transparency signifies the processes, institutions and information accessible directly to those concerned. Responsiveness means institutions and processes serve the concerned stakeholders. Good governance is consensus-oriented meaning it creates broad consensus through mediations among different stakeholders. Equity – all men and women have opportunities to improve or maintain their well-being. Effectiveness and efficiency – processes and institutions produce results that meet needs while making the best use of resources. Accountability – decision makers in government, the private sector and civil society organizations are accountable to the public, as well as to institutional stakeholders.

2.3.1 Accountability

Before oil exploration Iraq's economy was based almost exclusively upon agriculture. However, after 1970

economic performance was relatively impressive, and nationalization of the oil industry in 1972 provided Iraq with a source of sustainable financial strength, leading the Iraqi government to adopt an expansionary fiscal policy that stimulated economic activity, motivate production cycle, and encourage consumption. Since then, the economy has experienced considerable structural change and the prospects for economic development have changed with it.

Historically, the Iraqi economy experienced a high average of annual growth of approximately 8.3% between 1970 and1980, while the ratio of public and private investment to GDP were around 12.4% and 3.5% respectively. With regard to the Iraqi's economy, Foot argued that Iraqi oil resources in the 1970s allowed the country to reach the middle- income status, with a modern infrastructure, and good education and healthcare systems. By the beginning of the1980s, Iraq had the second largest economy in the Arab world, after Saudi Arabia, and the third largest economy in the Middle East. Having adopted a centrally planned economy dominated by the state.

Furthermore, economic and political stability were a priority for the Iraqi government, as it was highly important to achieve economic growth and they sought to give the private sector a leading role in job creation and the nation's economic development. Furthermore, the Iraqi government intimated that public investment should be directed towards providing basic and necessary infrastructure services that would play a supplementary role to private investment. To meet this end, Iraq's government has adopted the midterm national development plan and proposed five years plan to cover the period of 2010-2014 as well, to implement policies that diversifies the economic base of the country, which currently mainly depended on the oil and agricultural sectors. For the first time, the new economic philosophy has been proposed that is based on a free market ideology, with an emphasis on increasing both domestic and foreign investment rates in the country.

2.3.2 Political Stability

Iraq has suffered from a series of wars and sanctions over the last three decades. The country has had a significant security problem following the first Gulf War in1980–88, the second Gulf War in 1991, international economic sanctions in1991–2003, and the fall of the Saddam Hussein regime in 2003. These have leftist economy, infrastructure, and institutions in tatters, and contributed to rising poverty and deteriorating social conditions.

In March 2003, a U.S.-led invasion toppled Saddam Hussein's government, marking the beginning of a violent conflict, with different groups competing for power. The conflict triggered violent crimes such as bombing attacks, armed robberies, assassinations, and kidnappings, which, exacerbated by easy access to arms and ammunition, wreaked havoc on the Iraqi society.

Following the fall of Saddam Hussein's regime, the United States appointed a civil administrator of Iraq, charging it with supervising Iraq's transition to democracy.

The conflict has had enormous costs in terms of casualties and loss of human lives. While violent attacks and the loss of lives have dropped significantly in recent years—from their peak of about 29,000annual deaths in 2006 to about 5,000 deaths in 2012—the country still lacks security and stability. Since 2003, Iraq has achieved several politically important milestones. In January2005, some 8 million people voted in the first nationwide multiparty elections for 50 years, electing a Transitional National Assembly. Amid escalating violence, parliament selected as President Jalal Talabani, a Kurdish politician, former guerrilla leader, and cofounder of the Patriotic Union of Kurdistan. Following that, voters approved a new constitution, which created an Islamic federal democracy.

In March 2010, more than 60 percent of Iraqis voted in a second parliamentary election, and the former Prime Minister IyadAllawi, head of the IraqiyaAlliance, won the election with 91 seats, followed by Nuri Al-Maliki's State of Law Alliance with 89 seats (out of a total of 325). With either party unable to form a government on its own, talks began between Allawi and Maliki, or after eight months of stalemate, parliament reelected Jalal Talabani as president, who named AL-Maliki as prime minister.

Following the withdrawal of U.S. troops, Iraq needs to consolidate security, stability, and peace. The United States completed its troop pull-out from Iraq in December 2011. Unfortunately, this pull-out has been followed by apparent disarray in the Unity Government of Iraq, with political fault lines reemerging between the Shiite and Sunni groups in the government, and the Al-Iraqiya (Sunni) parliamentary bloc boycotting parliament and Cabinet sessions. The political conflict has in turn triggered a wave of bombing attacks, raising fears of escalating violence. Despite this setback, violence remains at its lowest level over the last two years.

2.3.3 Effective Government

Efficiency in the government expenditure has become an issue that is currently widely studied in the area of finance public. In the country with high economic growth, the level of efficiency of the government expenditure is issue to handle the attraction of differences interest between opposition and tax payer. A number of previous studies measuring public sector efficiency which link between government expenditures with some socio-economic indicators such as education, the number of mortality ratio baby, the number of infrastructure, [5], [6], [7].

[8] study the impact of public health and non-health factors expenditures (economy, education, culture) to the mortality of the children under age of 5 years. The

research results to empirical evidence that public health expenditures have had little impact in reducing the number of mortality under age of 5. [9] studies on the effectiveness of the health and education expenditures with samples of 50 developing countries. The research provides empirical evidence that public expenditures in the field of education have a positive impact in improving basic education in school participation (primary and secondary school). The increase 1 percent in health expenditures can reduce mortality rate less than 5 years around 3 per 1000 births. Allocation for expenditures to education and health can improve the economic growth and increase the welfare, so that every developing country needs to give special attention to allocating expenditures education and health expenditures.

2.3.4 Quality Regulation

The theories of political philosophy briefly reviewed above are not just empty words; these are the theories on which modern democratic states are founded. A simple survey of the constitutions of democratic countries would testify this truth. All democratic constitutions, unambiguously and unequivocally, preamble that people, individually called citizen, are the sovereign authority of the state. But for obvious reasons, people cannot carry out the functions of public administration; this job requires the creation of a political institution that is separate from the state or body politic but is morally and legally accountable to it. This political institution is called government.

All modern governments consist of three departments – legislature, executive and judiciary. Of these three, judiciary composed of appointed legal experts, is totally professional and bureaucratic. The legislature, which enjoys exclusive power of lawmaking, is totally political. The executive branch – that enjoys the right to exercise the state's sovereign power and hence is responsible for executing the laws and policies passed by the legislature – consists of both civil and military bureaucrats and elected politicians. The civil and military bureaucrats are professionals, trained to perform the jobs assigned to them. They take orders and instructions from their political bosses who are elected by people. Naturally, any conceptualization linking sustainable supply chain governance with related political and social institutions will be policy-effective only if it truthfully describes those institutions and their inter-relationships

2.3.5 Rule of Law

The social compact, Rousseau says, gives the body politic existence and life; this now needs laws for gaining movement and will. These laws are, properly speaking, the conditions of civil association. Since people are the owner of the body politic and subject to laws, they ought to be their author. This is however evidently impossible. So Rousseau suggests for a superior intelligence, which beholds all human passions but feels none; and which, although knows them thoroughly, is wholly unrelated to our nature.

Once laws are made, the next step in ordering the society is to execute them so that each and every subject can conduct life accordingly. Here, comes the need for the institution of government. Government, according to Rousseau, is an intermediate body set up between the subjects and the Sovereign, to secure their mutual correspondence; it is charged with the execution of the laws and the maintenance of liberty, both civil and political. The members of this body are called magistrates or kings, that is to say governors, and the whole body bears the name prince. It is simply and solely a commission, an employment, in which the rulers, mere officials of the Sovereign, exercise in their own name the power of which it makes them depositaries. Government or supreme administration, Rousseau says, is the legitimate exercise of the executive power, and prince or magistrate the man or the body entrusted with that administration.

2.3.6 Control of Corruption

The growth rate of the government expenditures including the education, health, and infrastructure that are not accompanied by the increase output in quality of education, health and infrastructure shows that there had been inefficiency in government expenditures. Furthermore, with the advent of decentralization it is expected for each district to the more effective in controlling the process of development, but sometimes in the other hand the local government could doing misuse of the authority and not implement the sustainable supply chain governance principles that culminated in corruption by government officials. [10] shows that the policy aimed to reduce corruption can cause changes in the composition government expenditures thus becoming more productive. Corruption will take away the rights of the nation to get service from the government. In addition, corruption can also be eased joints that are going to have to economic downturn in economic growth a country. Good governance will be able to improve inefficiency in government expenditures. With good governance then there are better monitoring from many party and accountability of government both the central and regional level. The good governance implementation the government can increase the efficiency of government expenditures.

The 'corruption' of Saddam Hussein's regime has provided the US administration with one of its main official justifications for military intervention in Iraq. Although the Bush administration initially focused on weapons of mass destruction (WMD) as a threat resonating with the US public, it emphasized corruption and human rights abuses to legitimize forceful regime change in the eyes of the Iraqi public (quickly extending this justification to the Western public as there were no

WMD to be found). Ironically, the statements of the White House on corruption and the justification of a forceful change echoed those of Islamic 'terrorist 'groups seeking to bring down 'corrupt regimes' in the Middle East, from Hamas in Palestine to Hezbollah in Lebanon or Al-Qaeda in Saudi Arabia. Of course, the US did not invade Iraq simply to end corruption of the regime of Saddam Hussein (or to replace it by a more the favourable one). Nonetheless, concept of corruption plays an important role in the US intervention in Iraq and vision of its broader impact on the politics of the Middle East, opening up questions regarding the role of corruption in political transition and reconstruction processes.

Corruption is a concept which is difficult to define, even in the context of orderly political regimes. It seems even more slippery when the legitimacy of rule, as in the case of Iraq, is openly and violently contested. As Johnston remarks, the most important issue 'may not be what the term ''corruption' means, but rather who gets to decide what it means, and how widely those decisions will be accepted'. Corruption has long been a 'taboo' issue in the international arena of governments and development agencies, often being justified by geopolitical agendas and portrayed as relatively benign. With the end of the Cold War major donors and international agencies have

redefined corruption as a central tenet of the 'good governance' agenda. Anticorruption reforms have proliferated and have targeted a vast number of countries, many of them in the midst of major political and economic transition. As discussed below, many of these initiatives fail to take into account the multiple forms and roles of corruption, thereby potentially undermining transition processes.

To conceptualize the theoretical background, this study explores the linkages between economic diversification and sustainable supply chain governance as the independent variables and the government expenditure as the dependent variable respectively. The economic diversification is measured by the contribution of the economy sector on GDP, exports by sector, imports by sector and total fixed capital formation. These dimensions are considered as the sustainable variables as they act as the indicators and control the directions of the state's economy. On the other hand, the sustainable supply chain governance is measured by Accountability, Political Stability, Effective Government, Quality Regulation, Rule of Law and Control of Corruption which are considered as the control variables. The figure 1 below presents the theoretical framework of the study [22].
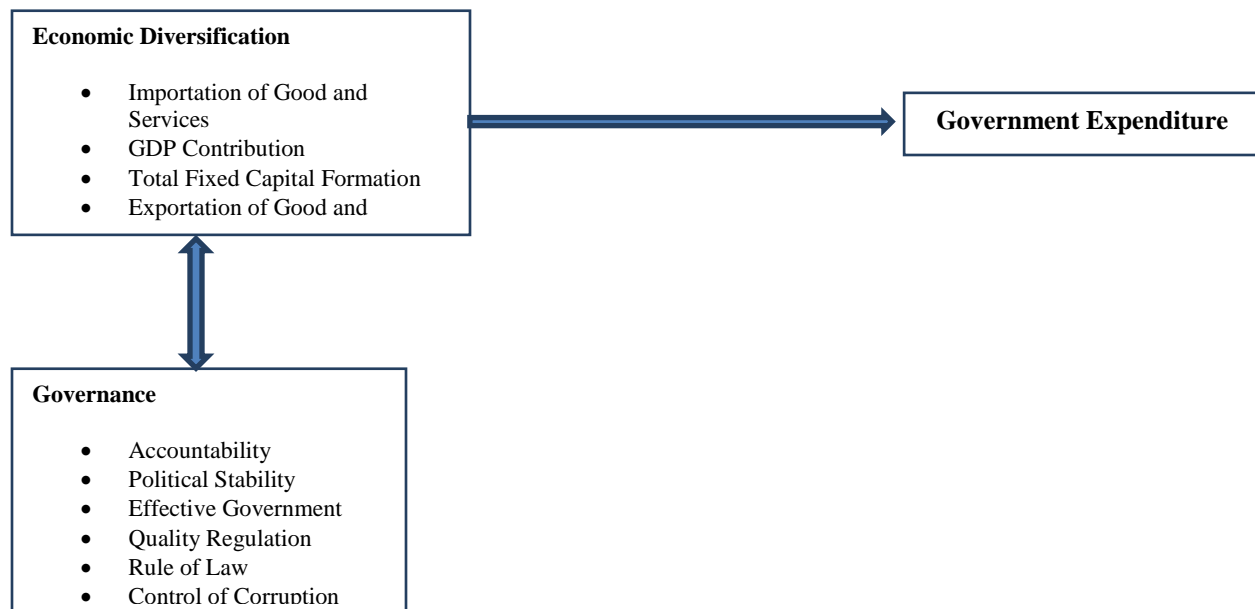
Sustainable Variables

Figure 1: Conceptual framework Model linking economic diversification, sustainable supply chain governance and government expenditure together

574

Int. J Sup. Chain. Mgt   Vol. 7, No. 6, December 2018

3. Methodology

There have been numerous studies by regional economists that have attempted to develop measures of economic diversity and sustainable supply chain governance and statistically test whether changes in a region's industrial structure are related to its economic stability and performance. To test these hypotheses, the researcher shall construct various scalar measures of regional economic diversity and sustainable supply chain governance using different economic theories. Similarly, various measures of economic diversification, political stability, accountability, control of corruption, rule of law and effective government shall also been constructed. This study shall therefore use secondary data from all the government expenditure indicators in Iraq to examine the relationship between the dependent variable and independent variables. The study shall employ Stata as the analysis technique using time series considering the economic variables of the study.

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:

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

Where n is the number of sectors, Si is the share of economic activity in the it 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. Results and Analysis

This chapter discusses the empirical analysis on the relationship between government expenditure and economic diversification in one fold and government expenditure and sustainable supply chain governance in another fold for 13 years between 2004 and 2016in Iraq [23].

4.1 Relationship between Economic Diversification and Government Expenditure

This study examined the R-squared of the fitness or goodness-of-fit of the model. R-squared is a statistical measure used to know how close the data are to the fitted regression. It can also be considered as the coefficient of determination. In other word, it is referred to as the coefficient of multiple determinations for multiple regressions. According to [11], [12], the value of R-square is acceptable when it is above 0.10. The result produces 0.8 as the R-squared which is high in value. This shows that, the higher the value of the R-squared, the greater the fit of the model. The F value of Prob> F = 0.0047with the notion that 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. The F-test of overall significance indicates whether your linear regression model provides a better fit to the data than a model that contains no independent variables.

575

Int. J Sup. Chain. Mgt   Vol. 7, No. 6, December 2018

Table 1: Regression analysis of economic diversification and government expenditure (2004-2016)

Gov. Exp	Coef.	Std. Err	T value	P>|t|	[95% Conf. Interval]	
GDP	6862.455	27071.99	0.25	0.806	-55565.66	69290.57
Export	2135204	459871.1	4.64	0.002	1074739	3195668
Import	1186380	230859.4	5.14	0.001	654017.2	1718743
FixedCap	208599.6	97560.2	2.14	0.065	-16374.63	433573.8
_cons	-2609975	478976.6	-5.45	0.001	-3714497	-1505453

Number of Obs = 13,
Prob> F = 0.0047
R-Squared = 0.8335
Root MSE = 37707

Table 1 shows the results of regression between economic diversification and government expenditure for the period of 2004 -2016 in Iraq. Based on the regression result of economic diversification in Iraq as presented in Table 1, the coefficient on GDP revealed a significant and positive signs with a value of 6862.455and z-value of 0.25. This result of positive sign of gross domestic product (GDP) means the government expenditure increased by 0.806. Hence, GDP presence increases the potential of government expenditure. Also, the coefficient of exports by sector (EXP) revealed a positive and significant sign of value 2135204. This implies that the level exportation within different sectors is significant and thereby has a good correlation with the government expenditure of Iraq. The import of sector (IMP) also showed a positive and significant coefficient (1186380) and z values of 5.14. That is, a one percent increase in the importation will lead to 0.001 increases in government expenditure. With respect to fixed capital formation (ENTRP), the coefficient (208599.6) is negatively significant at one percent level of significance (-5.45).These results are applicable for the period of 2004 to 2016 in Iraqi government expenditure.

4.2 Relationship between Governance and Government Expenditure
According to the regression result in Table 2 that shows the sustainable supply chain governance and government

expenditure in Iraq, the coefficient of accountability is revealed to be 1.308 which shows that the relationship is significantly positive and z-value of 0.44. This result shows that the level of accountability in Iraq is low, thus increased the government expenditure by 0.675. Hence, accountability if present would have reduced the amount of spending by the government. The coefficient of political stability revealed a positive and insignificant value. This implies that the presence of stability in the government politics has a significant effect on government expenditure in Iraq. The efficiency in sustainable supply chain governance showed a positive but insignificant coefficient (1.805) and z values of 0.94. That is the lack of government effective in governance will lead to 0.382 increases in government expenditure due to current situation in the country. With respect to quality of regulation, the coefficient (-4.884) is negatively significant and have no correlation with government expenditure with value of 0.732. This implies the lack of quality regulation in the system that regulates how money is being spent in Iraqi governance. However, the coefficient of rule of law revealed a negative and insignificant relationship with government expenditure at the level of 10% with the values of -0.664 for coefficient and -0.36 for z-value. The control of corruption showed a positive and insignificant coefficient (2.378) and z values of 0.540. The result reveals decrease in the rate of corruption which led to 0.609 increases in the government spending.

Table 2: Regression analysis of sustainable supply chain governance and government expenditure (2004-2016)

Gov. Exp	Coeff.	Std. Err	T value	P>|t|	[95% conf. Interval]	
Accountability	1.30806	2.969932	0.44	0.675	-5.959101	8.575221
Poli. stability	.1677754	1.715456	0.10	0.925	-4.029795	4.365346
Gov. effectiveness	1.805129	1.913703	0.94	0.382	-2.877533	6.487791
Reg. Quality	-4.88424	2.743513	-1.78	0.125	-11.59737	1.828893
Rule of Law	-0.6637102	1.850799	-0.36	0.732	-5.192451	3.865031
Ctl of Corruption	2.377884	4.405483	0.54	0.609	-8.401945	13.15771
_cons	11.44644	3.824517	2.99	0.024	2.088187	20.8047

Number of Obs = 13,
Prob> F = 0.4019
R-Squared = 0.5527
Root MSE = .60576

576

Int. J Sup. Chain. Mgt   Vol. 7, No. 6, December 2018

According to [13], the value of R-square is acceptable when it is above 0.10. The result produces 0.55 as the R-squared which is high in value. This shows that, the higher the value of the R-squared, the greater the fit of the model. The F value of Prob> F = 0.4019with the notion that 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. The F-test of overall significance indicates whether your linear regression model provides a better fit to the data than a model that contains no independent variables.

5. Discussion and Conclusion

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 and reasonable government expenditure [14], [15], [16]. 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 labour market, employment generation, and export growth). However, owing to the complexity created by differing national circumstances, standardized conclusive strategies are not advised; these are only lessons learned from experience to be tested and followed up.

In respect to the importation sector, reflecting pervasive inefficiencies and waste, purchase of other goods and services, the second largest recurrent expenditure, are also unusually high. They accounted for on average 14 percent of total expenditure (or 9 percent of GDP) between 2005 and 2010 (MTFF 2013–15). Key spending items included imports of medicinal drugs; imports of electricity, kerosene (for KRG), and fuel for power generation; costs associated with exports of crude oil; and purchase of other goods and services (that is, for Ministries of Interior and Defense). Although it constitutes a significant share, spending on goods and services has remained almost flat over the period. Utility and service charges to consumers are well below the cost of delivery. This makes the variable to have significant relationship with the Iraqi government expenditure. Also,

as Iraq is considered as part of countries under GCC while it is 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 serve as a caution against the hasty pursuit of specialization when economic growth levels are not sufficiently high (OECD and United Nations, 2011). A high share of capital investment, as a percentage of GDP, has a positive impact on government expenditure.

However, Gross Fixed Capital Formation in Iraq averaged 209518.22 IQD Million has from 2001 until 2016, reaching an all-time high of 340110.84 IQD Million in 2015. Record low of 100944.50 IQD Million started since 2001 till the year 2004 in which this study considered. The increase in the capital formation positively contributes to the expenditure of the government. 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 government expenditure.

In other hand, sustainable supply chain governance and growth of non-extractive sectors and economic competitiveness are important development objectives of resource-rich countries when it come government expenditure. To achieve the goal, the government in the whole world needs to always try to improve and maintain the government expenditure by diversifying into the economic gross domestic product (GDP), importation, exportation and total fixed capital formation and other elements of sustainable supply chain governance such as effective governance, rule of law, political stability, quality regulation, control of corruption and accountability. In these efforts, Iraqi government has been undergoing public sector reform for several decades within the period of 2004 to 2016. However, increase in the budget apparently is not accompanied with the improvement of the quality output of the expenses. Quality of education, based on these leading indicators such as the participation of good education in formal and informal programs, the education level that was ended by the people above 15 years old and above, and high rates of illiteracy show a small growth and sometimes tend to stagnant in several region. While sustainable supply chain governance is understood as the exercise of economic, political and administrative authorities to manage a country's affairs, good governance is defined as the processes and structures that guide political and socio-economic relationships. The absence or extent of good sustainable supply chain governance is implied by several characteristics: participation means all men and women have voices in decision making, either directly or through legitimate intermediate institutions. Thus, this

has all called for improvement in the sustainable supply chain governance of Iraq for an efficient spending in the government.

Reference

[1] Afonso, A., Schuknecht, L., & Tanzi, V. *"Public sector efficiency: an international comparison".* Public choice, Vol 123, No. 3-4, pp. 321-347, 2005.

[2] Agosin M.R., Alvarez, R., & Bravo-Ortega C. *"Determinants of export diversification around the world: 1962–2000".* The World Economy. Vol 35, No. 3, pp. 295–315, 2012.

[3] Amurgo-Pacheco, A. & Pierola, M.D. *"Patterns of Export Diversification in Developing Countries: Intensive and Extensive Margins".* World Bank Policy Research Working Paper, No. 4473, 2008.

[4] Cadot, O., Carrère, C., & Strauss-Kahn, V. *"Export diversification: what's behind the hump?"* The Review of Economics and Statistics. Vol 93, No. 2, pp.590–605, 2011a.

[5] Collier, P. *"The Bottom Billion—Why the Poorest Countries Are Failing and What Can Be Done about It".* Oxford: Oxford University Press, 2007.

[6] Dutt, P., Mihov, I., & Van Zandt, T. *"Trade Diversification and Economic Development".* INSEAD mimeo, 2009.

[7] Filmer, D., & Pritchett, L. *"The effect of household wealth on educational attainment: evidence from 35 countries".* Population and development review, Vol 25, No. 1, pp. 85-120, 1999.

[8] Foote *et al.* *"Economic policy and prospects in Iraq",* The Journal of Economic Perspectives, Vol. 18, No. 3, pp. 47-70, 2004.

[9] Gupta, S., Verhoeven, M., & Tiongson, E.R. *"The effectiveness of government spending on education and health care in developing and transition economies".* European Journal of Political Economy, Vol 18, No. 4, pp. 717-737, 2002.

[10] Hackbart, M.M., & Anderson, D.A. *"On measuring economic diversification".* Land Economics. Vol 51, No. 4, pp. 374–378, 1975.

[11] Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., & Tatham, R.L. *Multivariate data analysis,* Vol. 6. 2006.

[12] Heller, P.S., & Hauner, D. *"Fiscal policy in the face of long-term expenditure uncertainties".* International Tax and Public Finance, Vol 13, No. 4, pp. 325-350, 2006.

[12] Howell, A. *"Sovereignty, security, psychiatry: Liberation and the failure of mental health governance in Iraq".* Security Dialogue, Vol 41, No. 4, pp. 347-367, 2010.

[13] Imbs, J., & Wacziarg, R. *"Stages of diversification".* American Economic Review. Vol 93, No. 1, pp. 63–86, 2003.

[14] Klinger, B., & Lederman, D. *"Diversification, Innovation, and Imitation inside the Global Technological Frontier".* World Bank Policy Research Working Paper No. 3872. 2006.

[15] Le Billon, P. *"Corruption, reconstruction and oil governance in Iraq".* Third World Quarterly, Vol 26, No. 4-5, pp. 685-703, 2005.

[16] Malizia, E.E., & Ke. S. *"The influence of economic diversity on unemployment and stability".* Journal of Regional Science, Vol. 33, pp. 221-235, 1993.

[17] Melitz, M.J. *"The impact of trade on intra-industry reallocations and aggregate industry productivity".* Econometric. Vol 71, No. 6, pp.1695–1725, 2003.

[18] Navarro-García, A. *"Drivers of export entrepreneurship".* International Business Review. Vol 25, No. 1, pp. 244–254, 2016.

[19] Nourse, H.O. *"Regional Economics: A Study in the Economic Structure, Stability, and Growth of Regions".* McGraw-Hill. 1968.

[20] Parteka, A., & Tamberi, M. *"Determinants of Export Diversification: An Empirical Investigation".* Universita Politecnicadelle Marche Working Paper, No. 327, 2008.

[21] Ratnaike, Y.C. *"Is there an empirical link between trade liberalization and export performance?",* Economics Letters. Vol 117, No. 1, pp.375–378, 2012.

[22] Vermeulen, W.J., and Kok, M.T. *"Government interventions in sustainable supply chain governance: Experience in Dutch front-running cases,"* Ecological economics, Vol. 83, pp. 183-196, 2012.

[23] MacDonald, K. *"Globalising justice within coffee supply chains? Fair Trade, Starbucks and the transformation of supply chain governance,"* Third World Quarterly, Vol. 28, No. 4, pp. 793-812, 2007.