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Abstract

This paper aims, on the one hand, to investigate the impact of corruption on economic diversification in 11 oil-abundant Middle East and North Africa (MENA) countries and three successful diversifiers (Canada, Norway, and Malaysia) over the period 1996-2019. This is done using the Arellano-Bond difference Generalized Method of Moments (GMM) estimator that is effective in addressing the endogeneity problem. On the other hand, the paper aims to reveal how much the level of economic diversification will increase if MENA oil exporters have control of corruption scores similar to a successful diversifier like Canada. The main findings indicate that higher control of corruption leads to more diversification while higher oil rents lead to poor diversification in oil-exporting MENA countries. The joint impact of control of corruption and oil rents is effective in boosting economic diversification in MENA oil exporters. The results also reveal that the rate of improvement in diversification brought on by replacing MENA oil exporters' control of corruption scores with those of Canada is 0.53 percent. Closing the control of corruption gap determines how quickly MENA oil exporters can promote economic diversification. Furthermore, non-Gulf Cooperation Council (GCC) countries need to exert much more effort compared to GCC countries in order to catch up with Canada's control of corruption level. Most non-GCC countries must first address the serious problem of instability, since the more unstable the environment, the harder it is to control and handle corruption.

Keywords: Economic diversification, corruption, oil rents, MENA oil exporters.
JEL Classifications: D73, O43, O53, Q35, Q39.

ملخص

يهدف هذا البحث، من ناحية، إلى النظر في تأثير الفساد على التنويع الاقتصادي في 11 بلدًا غنيًا بالنفط في منطقة الشرق الأوسط وشمال إفريقيا، وفي ثلاثة بلدان ناجحة في إعمال التنوع (هم كندا، والنرويج، وماليزيا) خلال الفترة من 1996 إلى 2019، باستخدام مقدّر أسلوب اللحظات المعمم (GMM) لاختلاف أريلانو-بوند (Arellano-Bond)، والذي يعد فعالًا في تناول مشكلة تأثير المتغيرات الداخلية. ومن ناحية أخرى، يهدف البحث إلى الكشف عن مدى زيادة مستوى التنويع الاقتصادي إذا كان للبلدان المصدرة للنفط في منطقة الشرق الأوسط وشمال إفريقيا درجات مكافحة فساد مماثلة لتلك الخاصة ببلد ناجح في إعمال التنوع، مثل كندا. تشير النتائج الرئيسية إلى أن زيادة مكافحة الفساد تؤدي إلى مزيد من التنويع، بينما يؤدي ارتفاع الريع النفطي إلى ضعف التنويع في البلدان المصدرة للنفط في منطقة الشرق الأوسط وشمال إفريقيا. فيعد التأثير المشترك للسيطرة على الفساد والريع النفطي فعالًا في تعزيز التنويع الاقتصادي في البلدان المصدرة للنفط في منطقة الشرق الأوسط وشمال إفريقيا. كما تكشف النتائج عن وصول معدل تحسن التنويع الناتج عن استبدال درجات مكافحة الفساد في كندا بدرجات البلدان المصدرة للنفط في منطقة الشرق الأوسط وشمال إفريقيا إلى 0.53٪. ويحدد سد فجوة مكافحة الفساد مدى السرعة التي يمكن بها للبلدان المصدرة للنفط في منطقة الشرق الأوسط وشمال إفريقيا تعزيز التنويع الاقتصادي. وعلاوة على ذلك، تحتاج الدول غير الأعضاء في مجلس التعاون لدول الخليج العربية (GCC) إلى بذل المزيد من الجهد مقارنة بدول المجلس من أجل الوصل لمستوي مكافحة الفساد الكندي. كما يجب على معظم الدول غير الأعضاء المجلس أولاً، معالجة مشكلة عدم الاستقرار الخطيرة، حيث إنه كلما زاد عدم استقرار البيئة المحيطة، أصبحت مكافحة الفساد والتصدي له شديدة الصعوبة.

1. Introduction

Due to episodes of sustained oil price declines and associated slowdowns and uncertainties, oil-exporting MENA countries are obliged, now more than ever, to diversify their economies and remove the many sources of distortion in their economic diversification profiles. However, their efforts to kick the oil habit remain lethargic and their attempts to delink their economies from extreme reliance on oil rents have been underway for several years now.

When oil prices plunged from mid-2014 to early 2016 and again in March 2020, MENA oil exporters suffered from an undiversified export base and quickly depleting foreign exchange reserves. They also bemoaned not strategically benefiting from the previous huge leap in oil prices that had a profound impact on discouraging diversification away from the oil sector. The skyrocketing oil price exceeding USD 100 per barrel in past years allowed governments in oil-rich MENA countries to expand public spending, raise civil servants' salaries, placate influential social groups, and finance low-return infrastructure without any advantage to the economic diversification process. However, after periods of oil optimism, these governments saw their blissful dreams of perpetual oil blessings dashed and found themselves unable to maintain their current consumption expenditures, stop the continuing drain of foreign reserves, and find other sources of foreign exchange necessary to import goods (Mazarei, 2019). The pressures for economic diversification came very strongly from the nightmare of going bankrupt and resorting to IMF loans. They also imposed austerity measures that can bear most heavily on the socially disadvantaged and impoverished social groups in the population, render the economic situation of oil-rich countries even more difficult, and provoke social unrest, turmoil, and other terrifying scenes (Devarajan, 2019; Hendrix, 2017). MENA oil exporters that have been severely affected by the sharp and recent decline in oil prices are fully aware of the looming picture of a grave crisis hanging over them.

Corruption is one of the major obstacles to diversifying oil-rich MENA economies; it is deeply rooted not only in the underlying political and economic structure, but also in the society. It is an everyday affair at all levels in these countries. Pervasive corruption, which obstructs economic diversification attempts, renders these economies ill-prepared to cope with the post-oil era and more (rather than less) vulnerable to economic disasters, financial shocks, external pressures, and the recurrence of political unrest and instability in the future (Devarajan, 2018). Corruption has also led to government failure that caused allocational distortions, economic inefficiencies, and serious rigidities in the economic structure of oil-endowed MENA countries. In fact, corrupt bureaucrats and disgruntled politicians created artificial bureaucratic bottlenecks in order to be able to divert huge amounts of oil rents into their pockets and transfer embezzled public funds into foreign bank accounts and hidden offshore holdings. They did much damage because they had more room for maneuvering and knew that no one could stop their habit of corruption – especially in the absence of transparency, accountability, democratic scrutiny, independent inspection, adherence to the rule of law, fidelity, self-control, conscientiousness, institutional checks and balances, and other modes of controlling the exercise of public power and peaceful means to change or replace leadership (Bellin, 2012). The lure of private interest and gain was (and still is) a

sufficient incentive for corrupt politicians to stop seeking out economic diversification and avoid prioritizing the reinvestment of oil rents in education, technology development, innovation, new research and development activities, job training programs, human skills, and transportation infrastructure. For most MENA oil exporters, especially non-Gulf Cooperation Council (GCC) countries, corrupt politicians contributed to the poor business climate that is a persistent handicap for economic diversification. It therefore discourages both domestic and foreign investors, deters entrepreneurs, especially women, from creating a startup, makes multinational corporations more susceptible to risks, and inhibits technology transfer.

The question of why some oil-rich countries succeeded in diversifying their economies while MENA oil exporters failed to do so has attracted considerable interest. Successful diversifiers like Canada, Norway, and Malaysia showed tremendous commitment to finally getting rid of their heavy dependence on oil exports and became role models and trendsetters for oil-cursed countries that aspire, in some way, to achieve an expanded and diversified export base (Joya, 2015). These countries share a main commonality, which is a very low level of corruption that enabled Norway, for example, to market its "Oil for Development" program, in which oil rents are channeled to development activities and diversification purposes. These successful diversifiers support the argument that the triangle of oil rents, control of corruption, and strong institutions still constitutes a central part of their model for a sustainable path towards successful economic diversification. The insistence of successive Norwegian and Canadian governments on leaving no room for corruption or unfair advantage paved the way for introducing radical and successful economic reforms, prioritizing education, embracing a very wide range of non-oil industries, developing effective intersectoral collaboration, achieving rapid technological change, and boosting productivity gains (Kaznacheev, 2017; Nore, 2019). These well-diversified economies have also shown that the early implementation of serious institutional reforms is of paramount importance when it comes to the success of a diversification strategy.

Some recent studies have examined whether corruption prevents economic diversification in resource-rich countries, but they didn't empirically compare the diversification experience of successful diversifiers to that of oil-exporting countries that failed to diversify their economic base (e.g. Coumans, 2019; Olander, 2019; Djimeu and Omgba, 2019; Titeca and Edmond, 2019; Moisé, 2020; Gillies, 2020; Akonnor and Ohemeng, 2020; Johnson et al., 2020). So far, none of these studies have been able to determine the rate of improvement in economic diversification if unsuccessful diversifiers have control of corruption scores similar to that of successful diversifiers. Therefore, the present study revisits the relationship between corruption and economic diversification and addresses the aforementioned shortcomings to provide more useful and reliable information that may help redirect the focus towards a wider anti-corruption strategy in the journey of stimulating economic diversification.

Thus, this paper aims, on the one hand, to investigate the impact of corruption on economic diversification in 11 oil-abundant MENA countries (Algeria, Bahrain, Iran, Iraq, Kuwait, Libya, Oman, Qatar, Saudi Arabia, the United Arab Emirates (UAE), and Yemen) and three

successful diversifiers (Canada, Norway, and Malaysia) over the period 1996-2019 using the Arellano-Bond difference Generalized Method of Moments (GMM) estimator that is effective in addressing the endogeneity problem. On the other hand, it aims to reveal how much the level of economic diversification will increase if MENA oil exporters have control of corruption scores similar to that of a successful diversifier like Canada.

The paper is divided into five sections. After introducing the topic in section 1, section 2 presents a theoretical and empirical review on economic diversification and corruption, while section 3 discusses the economic diversification-corruption nexus in MENA oil exporters as well as Canada, Norway, and Malaysia. Section 4 provides the empirical analysis, and section 5 concludes the paper and draws some policy implications.

2. Theoretical and empirical review on economic diversification and corruption

Many oil-rich MENA countries were (and still are) plagued with corrupt politicians who pave the way for economic shortsightedness, leave the economy overly dependent on oil exports, receive bribes in exchange for lucrative oil contracts, and siphon off oil revenues to fill their own pockets. There are continuing reports of large-scale corruption within these countries, where diversification, particularly away from oil, has not yet materialized mainly due to the corruption that ruling elites practice on the state's oil resources to amass both wealth and power (Hafez, 2009; Devarajan et al., 2011). Political leaders in many MENA oil exporters are either unable or unwilling to make the necessary reforms and direct oil revenues towards fueling economic diversification efforts. One of the biggest problems is that oil-rich governments directly decide how oil revenues are allocated (where to spend and what to save) without showing a clear sense of fighting corruption or allowing citizens, the owners of oil wealth, to decide what to do with their rightful share of oil rents (Devarajan et al., 2013). To what extent does the existing governmental system for managing oil revenues reflect the wishes of the people who opt for economic diversification that provides them with more opportunities for improving their lives and those of their children? What really happens is that corrupt politicians attempt to convey that they are pursuing the public good and governing in the public's best interest while performing their duties; however, they are doing their best to make it impossible for these countries to become more economically diversified.

The windfall gains of oil promote rent-seeking behavior on the part of corrupt public officials who tend to be de facto distributive clients of the state, use oil rents to reward their supporters and buy off or repress politically influential opponents, turn a blind eye to productive activities, spend less on education and job programs for the unemployed, and, as a result, create complications and impose artificial limitations on any attempt to diversify revenue sources beyond oil production. In fact, the oil sector provides wealth, but not jobs (Moss et al., 2015). The enclave nature of the oil industry, characterized by extremely few backward or forward linkages with the rest of the economy, is, in essence, capital intensive rather than labor intensive. Employment is absolutely essential, and there must be an increase in private sector participation, but the rentier mentality, which pervades oil-rich governments in the MENA region, prevents the creation of an enabling environment within which the private

sector can play a leading role as the engine of employment generation. The implication is that corruption has allowed this mentality to abort plans that are underway to diversify the export basket from mainly selling crude oil to mainly selling a mix of refined products, industrial, food, and other consumer items that can induce increases in labor demand (Ali and Elbadawi, 2016). Economic diversification is of great interest and value to the very large numbers of youth seeking employment and people trying to improve their living standards and wellbeing, but rent seekers, corrupt governors, and bureaucrats crush their dreams and vigilant public spirit by thwarting the process of economic diversification.

Governments under corrupt regimes create monopolies for private interests; limit market competition; stifle private sector initiatives through a variety of means; raise political uncertainty; impose burdensome procedures in obtaining licenses and permits, especially in sectors with substantial government involvement; reject promising investment projects; reduce economic freedom; set cumbersome bureaucracy procedures; delay banking and financial sector reforms; make no efforts to revitalize the neglected educational system; and discourage foreign firms from transferring productive and new technologies and know-how to the domestic economy (Arezki and Brückner, 2011; Sekkat, 2018). It is pervasive corruption that allows for the continuity of the 'rich but poor' irony, which in turn makes most oil-endowed MENA countries more economically dependent on oil, which is a depleting asset.

Much of this oil wealth is spent by corrupt regimes on poor quality public goods, the military (to maintain a tenuous grip on power), highly sophisticated arms and equipment that most of these governments are incapable of using, and patronage that minimizes pressure for reforms (Humphreys and Banerji, 2003). Yet, large government spending has paved the way for problematic situations in which little money is left for reinvestment in important non-oil sectors. The law can restrict the freedom of corrupt governments to inefficiently spend oil revenues, but most oil-rich MENA economies lack the rule of law, a proper democratic system, accountability, and regulatory efficiency. Thus, once trapped in the resource curse, it is difficult to escape; corrupt ruling elites have no incentive to change the existing system and strategies, improve transparency, and engage in productive economic activities unless some special privileges are promised in return. Instead of investing in productive non-oil sectors, corrupt leaders are siphoning off the lion's share of oil revenues and investing them overseas. Corrupt politicians underestimate the tremendous value of the oil buried underneath the sands of their countries, avoid clear-sighted planning for the future, and tire after short-term gains (Shaxson, 2007). Economic diversification benefits large numbers of people, ensures a relatively stable revenue stream, serves as a hedge against future oil shocks, and allows for a smoother transition to the post-oil era, but corrupt and selfish leaders use oil rents to satisfy their narrow ends because they are more interested in reaping short-term gains than in chasing long-term benefits.

In fact, economies with a diversified export basket are more innovative, but the corruption associated with revenues generated from oil production is holding most oil-rich MENA countries back from becoming the innovative and diversified economies that they aspire to be.

Innovation cannot take place in an environment characterized by rampant systemic corruption, administrative sloth and clientelism, and mismanagement of oil revenues (Movchan et al., 2017). In these countries, corruption has broadly contributed to the poor governance experienced in public institutions, weakened the institutional basis for entrepreneurial and innovative activities, increased inefficiencies and wastage in public expenditure and service delivery, and left little room for research and development expenditures and reinvestments for further innovation and learning (Anokhin and Schulze, 2009). Postponement, delays, and cancellations of economic diversification programs are common in a corrupt environment where rent-seeking activities are more attractive compared to innovative and productive activities. Innovators need government-sponsored goods and intensive government support in terms of permits, licenses, patents, import quotas, easier access to finance, and competition laws and regulations that provide the framework for innovation. However, it is quite difficult, if not impossible, to meet these needs in less transparent environments, as corrupt leaders have strong incentives to shape the rules and regulations to their own advantage and are not held accountable for using oil revenues efficiently and making bad policy decisions (Murphy et al., 1993). Oil-rich countries with widespread corruption cannot expect to win the innovation race that is directly related to property rights protection. Pervasive corruption can weaken property rights protection, hinder the process of channeling knowledge and transferring technology, and restrict access to new and more advanced technology that can spur subsequent domestic innovation (Acemoglu and Verdier, 1998). The combination of oil revenues and widespread corruption downplays the importance of seeking innovation and passing effective laws for protecting intellectual property, and creates an insulating layer between the income generated by oil sales and the practical ways of financing economic diversification. If leaders truly aspire to use oil rents to finance economic diversification projects, then oil profits – that can be used to build up overseas investments in a sovereign wealth fund – are what matter, rather than oil revenues that are used to support current spending. However, what takes place in reality is quite different in most oil-exporting MENA countries, the corrupt governments of which anxiously care about the continuity of the external demand for oil.

The relevant question here is how oil-rich countries like Canada, Norway, and Malaysia managed to diversify away from oil and develop a highly-productive non-resource sector while most MENA oil exporters failed to do so. This question is of critical importance in identifying the principal factors responsible for the success in diversification away from heavy reliance on oil. Canada, Norway, and Malaysia are characterized by a low level of corruption and, at the same time, are oil-rich countries with continuously high levels of non-oil exports. These countries had two important things in common: they had leaders who ensured that oil wealth benefitted the large majority of the population as well as political elites that have been frugal and accountable to the people. Thus, these oil-endowed countries were able to translate their oil wealth into a diversified economic base. They succeeded in developing a wide range of manufacturing activities, thereby increasing national productivity and enacting good economic policies that are conducive to export diversification. In addition, their competent and farsighted governments realized that oil reserves will not last forever and

thus created a more favorable and less corrupt business environment, which in turn ensured a rapid transition from resource-based growth to manufacturing-led growth (Mazarei, 2019; Matallah, 2020; Lashitew et al., 2020). In fact, these governments took explicit steps to fight the corruption that helps distort economic priorities, discourages productive investment projects, and therefore hampers economic diversification.

The impact of corruption on economic diversification has received greater attention in more recent studies. Moisé (2020) claims that corruption is the most common reason why economic diversification fails, and indicates that corruption can be properly addressed only through transparency, accountability, and stronger control mechanisms that would allow citizens to monitor the activities of companies and governments in oil-producing countries because transparency alone is not enough to guarantee corruption reduction; transparency and accountability together may be able to identify the embedded corrupt practices and relationships and ensure efficient, equitable, and effective management of the profits resulting from oil production in a way that maximizes economic benefits and diversifies the economic base.

Coumans (2019) asserts that the resource curse would not occur if there was stronger governance and strict control of the processes and proceeds of corruption in resource-rich countries, and emphasizes that resource revenues are not well managed as a result of weak and corrupt governance. She also states that reducing corruption can enable these governments to channel oil rents to programs intentionally aimed at broadening and strengthening the foundation for economic diversification in countries endowed with natural resources.

Olander (2019) contributes to the debate on corruption and state-sponsored economic diversification and examines the relationship between them in a panel covering more than 100 countries from 1984 to 2010 by using the GMM. The results emphasize that corruption suppresses innovation and hinders economic diversification. He also argues that a more diversified economy is often not in the interest of incumbent elites who have the power to cement their position, form collusive coalitions necessary for reversing reforms in their favor, and gear institutions in a way that perpetuates their standing, because economic diversification will create winners and losers, and thus shifts the balance of power.

Gillies (2020) offers a useful insight about corruption trends in Africa's oil sector for the 2005 to 2014 period in 17 African countries and finds that public and private sector actors found inventive ways and used illicit tactics (including, for example, the use of the offshore financial system) to capture a portion of the ballooning oil rents (through manipulating the award of exploration and production rights as well as service and trading contracts, and shifting investment preferences in favor of narrow private interests); engage in fierce competition for power; enjoy their illicit funds offshore in peace; and escape their obligations and responsibilities to improve the non-oil revenue base and provide needed public goods.

Akonnor and Ohemeng (2020) emphasize the need to improve institutional strength and ensure effective transparency and accountability in the use of oil rents for national development in Ghana and for the benefit of all Ghanaians; they indicate that the real problem lies in pervasive corruption, local elites' monopolization of oil revenues, and citizens' inability to hold their leaders accountable due to a lack of access to information. They also recommend that the Government of Ghana should "walk the talk" when it comes to fighting corruption and enhancing accountability in order to effectively collect, allocate, and manage oil rents in a more transparent and accountable manner for the benefit of all Ghanaians.

Johnson et al. (2020) reinforce calls to introduce transparency initiatives for increasing accountability in order to protect against the corrosive and corrupting effects of oil booms that can generate increased vulnerability to economic instability, hold the entire economy hostage to volatile oil income, and produce greed-based grievances. Mollick et al. (2020) conclude that resource–rich societies should demand a higher level of participation in the decision-making process to ensure accountability and transparency in regards to the exploitation of natural resources and the destination of related income by using the GMM estimator for a panel of 76 resource-rich countries spanning the period 1980-2014.

Titeca and Edmond (2019) examine corrupt practices around the function of oil revenues, focusing on how oil earnings are collected and distributed in Congo. They find that corruption is deeply rooted in Congo's hydrocarbon sector, goes hand-in-hand with unproductivity, and subverts the diversification process. They also conclude that the status quo remains as long as this sector functions as a "grazing ground" for corrupt elites. Kasimba and Lujala (2019) conclude that Ghanaian residents lack access to relevant information and have no real influence on decision-making concerning the redistribution of natural resource revenues at the local level through local benefit-sharing trust funds (LBSTFs). They notice that the disclosed information on trust funds and their operations and performance were not sufficient or understandable and hence evoked general distrust towards the funds and limited the knowledge of local residents to voice concerns about fund management and their representation in decision-making bodies in these funds. Such representation has decisively led to the implementation of projects that often do not automatically lead to economic diversification nor do they address the pressing needs of local residents.

3. The economic diversification-corruption nexus: MENA oil exporters versus peer countries

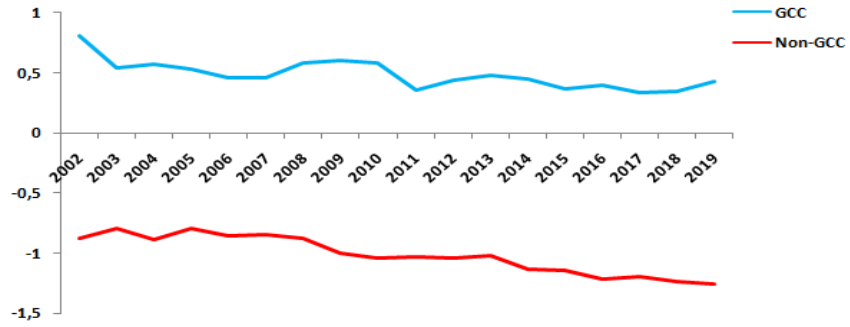
Although MENA oil exporters have made some progress in terms of economic diversification over the past decade, the agricultural sector remains weak and poorly developed. Most MENA oil exporters are experiencing a stagnant agricultural sector; the agricultural value added accounted for 3.63 percent of GDP in 2019 compared to the industrial and services sectors' value added, which accounted for 49.2 and 47.61 percent of GDP in 2019, respectively, according to the World Bank's World Development Indicators database. In fact, GCC countries had a meager share of manufacturing value added of only 10.83 percent of GDP in 2019, indicating that manufacturing opportunities remain grossly underexploited because of

policy and institutional barriers that still hinder the structural transformation of these economies.

The participation of MENA oil exporters in the global value chain (GVC) is weak; this is due to poor infrastructure, logistics bottlenecks, non-tariff barriers to trade, poor information flows, burdensome business environments, bad budget transparency, insufficient technology imports and investments, deficiencies in educational systems, and absence of reform policies (Arezki et al., 2019). The lack of a deeper and closer regional integration also impedes regional SMEs from participating in global and regional production and developing and exploring new business opportunities (Giovannetti and Marvasi, 2019). Maintaining the status quo by sparing no effort to improve export performance and insisting on discretionary and preferential implementation of policies will continue to keep MENA oil exporters as far away from joining global production chains as possible.

GCC countries have focused on increasing the share of high-technology activities in manufacturing value added, but this has not yet translated into significantly higher-quality exports, whereas oil-poor MENA countries like Morocco and Tunisia have made some progress in improving the quality of their exports between 1990 and 2016 and increased their trade integration into European markets by boosting low-cost assembly activities and value-added exports dominated by low and medium levels of technologies. Algeria's backward GVC integration is still lower than that of Morocco and Tunisia. Algeria is the most protected market in the region, so it is not surprising that it didn't upgrade its position in the GVC because intensified trade barriers and high protectionism restrain the development of export-oriented processing small- and medium-sized enterprises (SMEs) that can facilitate wider integration into GVCs (Arezki et al., 2019).

Figure 1. Control of corruption in oil-abundant MENA countries, 2002-2019



Source: World Bank Governance Indicators, the data are available online at: http://info.worldbank.org/governance/wgi/index.asp (accessed 04/01/2020).

The perceptions of corruption cause MENA oil exporters to lag behind in receiving investment flows, importing technology, investing in innovation, encouraging competitiveness, supporting entrepreneurship, and inducing new economic activity through start-ups and spin-offs. The more digging that is done, the more deep-rooted and sensitive the corruption issue appears to be. Non-GCC oil-rich MENA countries, especially Yemen and

Libya, rank lower on the control of corruption index (Figure 1); they are experiencing prolonged conflicts and instability and exhibiting an alarming level of human suffering, and are therefore still stuck at the bottom of this index. Corruption in Algeria is still an insurmountable problem despite launching a massive anti-corruption campaign and pursuing high-level corruption investigations since the start of the Hirak movement in February 2019.

Qatar and the UAE fared better in the control of corruption due to their higher levels of human development, well-developed education systems, advanced healthcare systems, high degree of stateness, and efficient, accountable, and transparent public sector. Compared with these advancements, democratic institutions and political rights have been left far behind. This leaves the fight against corruption dependent mostly on the political will and interests of the incumbent ruling elite who may be suddenly displaced. The dangerous thing is that Transparency International, which is the world's leading anti-corruption campaigner, classified the UAE as a key piece in the global money-laundering puzzle due to its unrestricted luxury real estate market and secretive banking sector.

Unfortunately, corruption will remain strikingly and stubbornly high in most oil-rich countries as long as bureaucratic bottlenecks, social injustice, insufficient accountability, inadequate checks and balances, stifled civil liberties, and broken social contracts continue to persist (Ross, 2013). Corruption cannot be contained in the presence of great indirect influence on the decisions of leaders, corrupt actors' increasing entanglement in dubious economic deals and misuse of budgets and authority, and frustration of reform efforts.

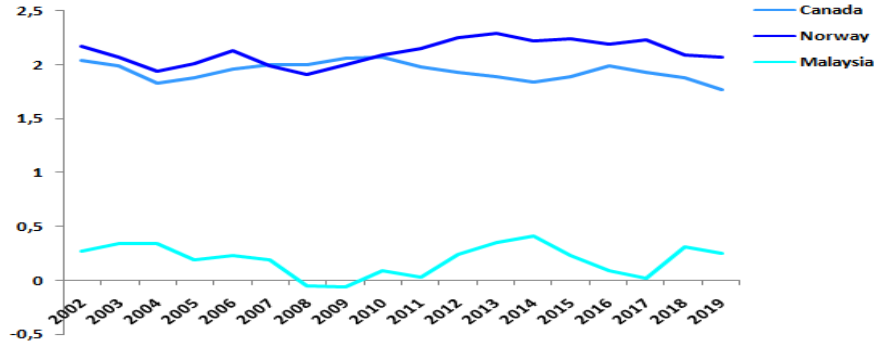
Meanwhile, Canada, Norway, and Malaysia have been successful in diversifying their economic bases away from oil-related activities. In fact, Malaysia is one of the world's most open economies; its trade averaged over 130 percent of GDP since 2010 and its share of manufacturing exports accounted for more than 70 percent of total exports in 2009, while oil declined to only 10 percent of total exports in the same year (Devadas et al., 2020). Despite abundant oil wealth, Canada's oil exports account for less than 20 percent of total exports. Oil revenues are not the main source of financing Canadian imports, unlike the case in oil-exporting MENA countries. In line with ambitious export targets, Canada set a goal to increase its overseas exports by 50 percent by 2025. Norway stands out as one of the most inspiring diversification success stories; it converted a part of its oil reserves into diversified financial assets by creating a gigantic sovereign wealth fund (the Government Pension Fund Global) that is now worth about 2.5 times Norway's annual GDP.

These peer countries have succeeded in overcoming the contradiction between oil wealth and poverty by: increasing the sophistication of their industrial and export structures; riding the wave of core technologies; introducing higher-value-added products; increasing integration into GVCs; having strong backward linkages; rapidly acquiring state-of-the-art telecommunication, transportation, and infrastructure facilities; focusing on the development of human resources; allocating part of oil revenues to support research and innovation;

prioritizing investments that involve technology transfers; putting forward a broader framework of regional trade; attracting foreign direct investment; promoting business competitiveness; and, finally, addressing public sector inefficiency. These economies succeeded in turning oil from a curse into a blessing.

Another major reason why robust diversification has taken place in Canada, Norway, and Malaysia is that their national oil companies have a history of good financial returns coupled with clear disclosure, transparency, and accountability. Hence, there was indeed a proper start towards diversification. On the contrary, Algerian state-owned oil and gas company Sonatrach has been involved in many corruption scandals; it hindered the oil sector's development and distracted policymakers from considering the country's economic destiny. As a matter of fact, Petronas's revenues financed many Malaysian development projects that laid the ground for economic diversification. Similarly, Norway's Statoil played an important role in advancing the Norwegian oil industry and paved the way for further development in other areas, such as capital-intensive and technology-intensive industries (Kaznacheev, 2017; Nore, 2019). This was possible only by dint of these countries' strict control of corruption through maintaining transparency and accountability. Institutional effectiveness and strong leadership were the keys to these countries' prudent management of oil revenues. The strong institutional vision that was aligned with diversification needs removed obstacles to developing the non-oil sector. For instance, the corruption-free environment facilitated the pre-development of non-oil sectors in Canada (Djimeu and Omgba, 2019). Norway's well-known institutional history – which is characterized by democracy, rule of law, transparency, predictability, enforceability, and stability – left no opening for corrupt practices. Accordingly, diversification dreams have materialized in such a context of integrity.

Figure 2. Control of corruption in Canada, Norway, and Malaysia, 2002-2019



Source: World Bank Governance Indicators, the data are available online at: http://info.worldbank.org/governance/wgi/index.asp (accessed 04/01/2020).

Norway and Canada have one of the world's highest rates of control of corruption. Malaysia is also keeping corruption under control (Figure 2). Honest leadership and a farsighted vision of needs and opportunities ensured the wise management of oil revenues and certainly accelerated the diversification process in these countries. Caring Malaysian, Canadian, and Norwegian leaders look after an equitable distribution of oil wealth and a more diversified

economic base that considers the wellbeing of present and future generations. On the contrary, the leaders of oil-rich MENA countries lack this wisdom and seek to protect their narrow private interests instead of broad public ones. The pioneering diversification experiences of Malaysia, Canada, and Norway show oil-exporting MENA countries that they can catch up with the circle of diversified economies if their governments commit to fighting corruption on all fronts and spending oil rents wisely in favor of urgently needed economic diversification.

4. Empirical analysis

A. Data description

Our analysis is based on the period covering 1996 to 2019 for 11 oil-abundant MENA countries (Algeria, Bahrain, Iran, Iraq, Kuwait, Libya, Oman, Qatar, Saudi Arabia, the UAE, and Yemen) and three successful diversifiers (Canada, Norway, and Malaysia).

The dependent variable is economic diversification, which is represented directly by the export diversification index that indicates whether the export structure of each country or country grouping differs from the world patterns; this index takes values between zero (a high degree of diversification) and one (a low degree of diversification) using data from the UNCTAD database. The value added of the services, industry, and agricultural sectors as a percentage of GDP also serves as an independent variable in other models to capture the impact of corruption on important non-oil sectors using data from the World Development Indicators database.

The set of explanatory variables includes: control of corruption, which ranges from -2.5 (bad) to 2.5 (good) using data from the World Bank's Worldwide Governance Indicators (WGI) database; oil rents (as a percentage of GDP), which represent the difference between the value of crude oil production at world prices and total costs of production using data from the World Development Indicators database; economic freedom, which is used as a proxy for economic institutions and was introduced by the Heritage Foundation and Wall Street Journal (this indicator is graded on a scale of zero (repressed) to 100 (free)); the human development index, which measures human capital development using data from the UNDP database; the patent application rate, which measures the overall innovation performance using data from the WIPO statistics database; domestic credit to private sector (percentage of GDP) using data from the World Development Indicators database; and, finally, political stability, which ranges from -2.5 (bad) to 2.5 (good) using data from the World Bank's WGI database.

B. Regression specification

An empirical analysis based on the Arellano-Bond difference GMM technique is conducted on panel data to explore the nexus between economic diversification and corruption. Our specification is based on the earlier empirical works of Hausmann et al. (2007), Osakwe (2007), Agosin et al. (2012), Osakwe et al. (2018), Olander (2019), Mania and Rieber (2019), and Lashitew et al. (2020).

Our modified panel data model is as follows:

$$DIV_{it} = \alpha_i + \beta_1 DIV_{it-1} + \beta_2 CC_{it} + \beta_3 X_{it} + \varepsilon_{it} \quad (1)$$

Where i and t represent country and time periods, respectively. DIV is economic diversification. Country fixed effects are denoted by α_i. CC Stands for control of corruption, while X represents the set of other explanatory variables, and ε represents the error term. It is worthwhile to note that the empirical literature establishes no pattern for including a control variable and most selections are study-specific. This study uses variables pertaining to oil rents, economic freedom, the human development index, patent application rate, private sector credit, and political stability as control variables.

The use of control of corruption as an explanatory variable in diversification models is subject to criticism on account of problems of endogeneity. The best way to address these problems is to use the Arellano-Bond difference GMM, which excludes the unobserved firm effects by first differencing and using appropriately lagged values of all the endogenous variables as instruments (Arellano and Bond, 1991; Arellano and Bover, 1995; Hansen and West, 2002). The Arellano-Bond estimation takes the first-difference form of Equation 1.

$$DIV_{it} - DIV_{it-1} = \lambda_1(DIV_{it-1} - DIV_{it-2}) + \lambda_2(CC_{it} - CC_{it-1}) + \lambda_3(X_{it} - X_{it-1}) + (\varepsilon_{it} - \varepsilon_{it-1}) \quad (2)$$

When transforming the regressors into first difference, potential biases caused by omitted variables are removed, as these variables do not change over time. The Arellano-Bond difference GMM also resolves the problem of autocorrelation, as the first-differenced lagged dependent variable is also instrumented with its past levels. It is worth noting that this estimator is very effective in controlling for endogeneity by adding lagged levels of endogenous regressors and using exogenous variables as instruments because, as is shown in Equation 2, $(\varepsilon_{it} - \varepsilon_{it-1})$ tends to be correlated with $(DIV_{it-1} - DIV_{it-2})$. Thus, instrumenting lagged values of regressors renders them pre-determined and not correlated with the error term $(\varepsilon_{it} - \varepsilon_{it-1})$ under the assumption that the error term ε_{it} is not serially correlated and that the explanatory variables are weakly exogenous. The validity of this assumption can be tested firstly by the commonly used Sargan and Hansen test of over-identifying restrictions, which tests the overall validity of the instruments, and secondly by the Arellano-Bond test for second-order serial correlation (AR(2)), which examines the null hypothesis that the error term is serially uncorrelated (Arellano and Bond, 1991; Arellano and Bover, 1995; Blundell and Bond, 1998).

C. Results and discussion

Table 1. Descriptive statistics

Variables	Mean	Maximum	Minimum	Std. Dev.	Observations
MENA Oil Exporters					
DIV	0.766334	0.903018	0.511898	0.077002	264
CC	-0.208937	1.722849	-1.681461	0.852116	231
OILR	28.97213	67.52576	0.791113	15.57477	244
EF	58.30944	77.70000	15.60000	14.08401	233
HDI	0.733189	0.866000	0.408000	0.106745	249
PATENT	1.775257	33.94429	1.68E-06	5.287229	208
PRCRT	36.30836	105.1871	1.266927	23.54954	238
PSAV	-0.510348	1.210541	-3.184814	1.178687	231
Peer Countries					
DIV	0.492378	0.662629	0.332020	0.113919	72
CC	1.435346	2.294475	-0.056477	0.874954	63
OILR	3.998662	10.87628	0.038192	2.719250	69
EF	70.53750	80.80000	59.90000	5.603732	72
HDI	0.858623	0.954000	0.695000	0.080839	69
PATENT	8.707062	15.84113	0.088377	4.662810	69
PRCRT	118.1193	158.5054	74.23473	19.45981	56
PSAV	0.858905	1.610245	-0.042381	0.490888	63

Note: Std dev. indicates standard deviation

Table 1 presents the summary statistics for the variables included in the empirical study, covering 11 oil-abundant MENA countries (Algeria, Bahrain, Iran, Iraq, Kuwait, Libya, Oman, Qatar, Saudi Arabia, the UAE, and Yemen) and three peer countries (Canada, Norway, and Malaysia) over the period 1996-2019. As can be readily seen from this data, the diversification index (DIV) has an average of 0.76 and a minimum value of 0.51 (a low diversification score indicates a high level of diversification) in oil-rich MENA countries, reflecting that there are slight regional differences in diversification performance. Meanwhile, the diversification index has an average of 0.49 and a minimum value of 0.33 in the peer group of countries, indicating that Canada, Norway, and Malaysia have well diversified economies compared to MENA oil exporters. The control of corruption index (CC) has a maximum value of 1.72 that belongs to Qatar and a minimum value of -1.68 that belongs to Yemen, reflecting that non-GCC MENA oil exporters have not been as successful as their GCC comparators in controlling corruption. The control of corruption index has a maximum value of 2.29 in peer countries that perform far better than oil-exporting MENA countries in terms of control of corruption. Oil rents (OILR) have an average value of 28.97 and a maximum value of 67.52, indicating that most MENA oil exporters are still heavily dependent on oil revenues.

Table 2. Regression results for 11 oil-abundant MENA countries

Regressors	(a)	(b)	(c)	(d)
	Dependent Variable			
	DIV	AGR	IND	SER
DIV_{t-1}	-0.770718 (0.0210)**			
AGR_{t-1}		0.098449 (0.0000)***		
IND_{t-1}			0.014202 (0.7180)	
SER_{t-1}				0.058479 (0.0335)**
CC	-0.108916 (0.0446)**	1.415111 (0.0248)**	14.10108 (0.0621)*	25.74835 (0.0036)***
OILR	0.001162 (0.0073)***	-0.019445 (0.0018)***	-0.242396 (0.0078)***	-0.199227 (0.0449)**
EF	-0.005897 (0.0693)*	0.104843 (0.0906)*	1.120797 (0.0170)**	0.595186 (0.0003)***
AR (2) (p-value)	0.4178	0.4406	0.7624	0.4332
Hansen Test	1.071776	1.635702	2.517217	3.074844
[p-value]	[0.898724]	[0.896899]	[0.641556]	[0.688448]
No of instruments	8	9	8	9
No of countries	11	11	11	11
No of observations	153	153	165	155

*p < 0.1; **p < 0.05; ***p < 0.01

Table 2 presents the Arellano-Bond difference GMM results. All models include (differenced) lagged dependent variables (among the regressors) whose coefficients have the expected signs. Column (a) reveals that control of corruption exhibits a statistically significant negative effect on the diversification index at the five percent level of significance (in other words, higher control of corruption leads to more diversification, since a high diversification score indicates a low level of diversification). This result is consistent with that of Djimeu and Omgba (2019) and Matallah (2020b). Many oil-rich MENA countries were and still are plagued with corrupt politicians who pave the way for economic shortsightedness, leave the economy overly dependent on oil exports, receive bribes in return for lucrative oil contracts, and siphon off oil revenues to pad their own pockets instead of investing them in productive non-oil sectors.

Likewise, oil rents display a significant positive impact on the diversification index in oil-rich MENA countries (in other words, higher oil rents lead to poor diversification, since a high diversification score indicates a low level of diversification). This result is consistent with that of Hendrix (2017) and Matallah (2020a). The windfall gains that arise from oil promote rent-seeking behavior on the part of corrupt public officials who turn a blind eye to productive activities because they have strong incentives to shape the rules and regulations to their own advantage and are not held accountable for using oil revenues efficiently, therefore making it impossible for these countries to become more economically diversified. Economic freedom is negatively and significantly linked to the diversification index in oil-exporting MENA countries, confirming the finding of Esanov (2012). The preservation of economic freedom is

an essential prerequisite for private sector involvement in the economic diversification process.

As shown in columns (b), (c), and (d), agriculture, industry, and services appear to be strongly positively influenced by control of corruption, confirming the findings of Horvath and Zeynalov (2016) and Ojeka et al. (2019). Corruption induces unproductive rent-seeking behavior and encourages economic agents to focus on redistributive rather than value-adding activities. Oil-rich countries with widespread corruption cannot expect to win the diversification race powered by agriculture, industry, and services in the presence of rampant corruption. Moreover, oil rents exert a significant negative impact on agriculture, industry, and services in MENA oil exporters, confirming the findings of Alsharif et al. (2017) and Lashitew et al. (2020). Higher oil rents leave no room for investing in the agricultural, industrial, and services sectors in these countries.

To assess the validity of instruments in GMM first-difference estimation (Table 2), we conduct the Sargan-Hansen test of over-identifying restrictions as well as the Arellano-Bond test for second-order serial correlation AR (2). The results show that null hypotheses cannot be rejected. This indicates that the instruments are valid and the results of our estimates are consistent and credible.

Table 3. Regression results for MENA oil exporters and peer countries

Regressors	(a)	(b)	(c)	(d)
	Dependent Variable: DIV			
	MENA Oil Exporters	MENA Oil Exporters	Peer Countries	Peer Countries
DIV_{t-1}	-0.060024	-0.421139	-0.973209	-0.402765
	(0.3280)	(0.0579)*	(0.0452)**	(0.0863)*
CC	-0.160045		-0.281980	
	(0.0413)**		(0.0000)***	
OILR	0.005307		-0.069058	
	(0.0000)***		(0.0004)***	
CC*OIL	-0.003755		-0.041086	
	(0.0014)***		(0.0000)***	
EF	-0.005418		-0.003127	
	(0.0422)**		(0.0195)**	
HDI		-0.387825		-0.494492
		(0.0649)*		(0.0095)***
PATENT		-0.000838		-0.001119
		(0.0057)***		(0.0000)***
PRCRT		-0.000730		-0.000266
		(0.0888)*		(0.0022)***
PSAV		-0.044796		-0.009003
		(0.0002)***		(0.0597)*
AR (2) (p-value)	0.2793	0.1339	0.5553	0.1440
Hansen Test	1.646236	3.881453	0.092155	4.438480
[p-value]	[0.800459]	[0.566607]	[0.954968]	[0.349905]
No of instruments	9	10	2	2
No of countries	11	11	3	3
No of observations	153	99	51	40

*p < 0.1; **p < 0.05; ***p < 0.01

Table 3 shows the results obtained using the first difference GMM estimator. As shown in column (a), the multiplicative interaction term between control of corruption and oil rents yields a significant negative coefficient at the one percent level of significance (confirming the findings of Matallah (2020b)) and reflecting that the joint impact of control of corruption and oil rents is effective in boosting economic diversification in MENA oil exporters because a tighter control over corruption implies less leakage of oil rents into the pockets of corrupt politicians and devotes more revenues to reinvestment in important non-oil sectors. Based on the results in column (c), the multiplicative interaction term between control of corruption and oil rents carries the expected negative sign and is statistically significant at the one percent level of significance, implying that the combined effect of control of corruption and oil rents is of paramount importance in accelerating economic diversification in the peer group of countries. Canada, Norway, and Malaysia had political elites that have been frugal and accountable to the people, and hence they were able to translate their oil wealth into a diversified economic base and achieve high levels of non-oil exports.

Column (b) shows that the human development index (HDI) negatively and significantly affects economic diversification in MENA oil exporters. This result appears to support Barro (2001), Busse and Gröning (2013), Bhattacharyya and Hodler (2014), and Osakwe et al. (2018) and can be explained by the fact that high human development is an important driver of diversification success because it is extremely pertinent in developing productive capacity and encouraging higher value-added activities. Patent applications (PATENT) have a significant negative impact on economic diversification in oil-endowed MENA countries, confirming what has been reported by Schwab and Sala-i-Martin (2017) and Pritchett et al. (2017). Most of these countries invest less in research and development and generate less innovation output, and therefore consequently fail to achieve diversification of their export bases. None of the MENA oil exporters have more patent applications than their peers, but the much more terrible fact is that these countries have significantly lower levels of patent applications than would be predicted by their levels of income. Corrupt policymakers stand behind the status quo and sabotage reforms that target high-tech manufacturing and knowledge-intensive industries, making these countries unable to create new technologies, assimilate imported technology, and attain economic diversification. Private sector credit (PRCRT) has a significant negative effect on economic diversification in MENA oil exporters, confirming what has been reported by Claessens (2006) and Bhattacharyya and Hodler (2014). An increasingly broad and diversified export base requires greater private sector participation that can be fostered by wider access to credit which, in turn, is likely to be lacking in many oil-rich MENA countries. Restricted access to credit for the private sector can limit the expansion of the non-oil sector, stifle private sector productivity, and undermine economic diversification. One of the serious weaknesses of these countries' business environments is the ability to get access to credit on the basis of privilege and connections, which can be a frustrating process for young entrepreneurs and youth-led SMEs that can pave the way towards a more diversified economy. Political stability (PSAV) has a significant negative effect on economic diversification for MENA oil exporters, confirming the findings of Matallah (2020a) and Matallah (2020b). Most oil-rich MENA countries are experiencing political instability that distracts policymakers from pursuing fundamental reforms, serves as

a major disincentive to the development of the private sector, and therefore cripples plans for economic diversification. Recently, most of these countries showed a strong inclination towards increasing military spending instead of reinvesting those dollars toward non-oil growth.

Column (d) reveals that the human development index (HDI) has a significant negative impact on economic diversification in the peer group of countries, confirming the findings of Djankov et al. (2002). In Canada, Norway, and Malaysia, high human development can be seen as an eventual developmental outcome and acts as an immediate determinant of economic diversification. Patent applications (PATENT) negatively and significantly affect economic diversification. Peer countries fare much better than MENA oil exporters in terms of patent applications and research and development expenditures that are in line with their higher income levels. It is apparent that Canada stands out as having the highest levels of patent applications in this group of countries. Greater diversification performance in peer countries is partly caused by a continuous process of innovation. Private sector credit (PRCRT) also negatively and significantly affects economic diversification in the peer group of countries. These successful diversifiers support the private sector by providing credit access to small businesses that have a critical role to play in the diversification process. Political stability (PSAV) also negatively and significantly affects economic diversification. What characterizes these peer countries is their long history of political stability that helped in the development of a long-term vision for economic diversification and strategic planning, which, in turn, has created today's stable and robust economies that position these countries as successful diversifiers.

In each of the estimated models, the Sargan-Hansen test of over-identifying restrictions accepts the validity of the set of instruments, and the Arellano-Bond test of second-order serial correlation AR (2) confirms the absence of second-order serial correlation in the differenced residuals. Therefore, the results obtained are valid.

Table 4. Regression results for MENA oil exporters

Regressors	(a)	(b)
	Dependent Variable: DIV	
	Before	After
DIV_{t-1}	-0.060024	-0.331008
	(0.3280)	(0.0087)***
CC	-0.160045	-0.695069
	(0.0413)**	(0.0007)***
OILR	0.005307	-0.023872
	(0.0000)***	(0.0019)***
CC*OIL	-0.003755	-0.011929
	(0.0014)***	(0.0019)***
EF	-0.005418	-0.035241
	(0.0422)**	(0.0314)**
AR (2) (p-value)	0.2793	0.9624
Hansen Test	1.646236	1.380010
[p-value]	[0.800459]	[0.847662]
No of instruments	9	9
No of countries	11	11
No of observations	153	164

*p < 0.1; **p < 0.05; ***p < 0.01

In order to reveal how much the level of economic diversification will increase if MENA oil exporters have control of corruption scores similar to that of a successful diversifier like Canada, we estimated two models (shown in Table 4) before and after replacing MENA oil exporters' control of corruption scores with those of Canada using the Arellano–Bond difference GMM estimator.

Column (a) reports the Arellano-Bond difference GMM results before replacing MENA oil exporters' control of corruption scores with those of Canada. Control of corruption is negatively and significantly linked to the diversification index at the five percent level of significance in oil-rich MENA countries; an increase of one percent in control of corruption leads to an 0.16 percent decline in diversification in these countries (in other words, there will be an 0.16 perceent increas in economic diversification if control of corruption increases by one percent since a low diversification score indicates a high level of diversification).

Column (b) shows the Arellano-Bond difference GMM results after replacing MENA oil exporters' control of corruption scores with those of Canada. Control of corruption displays a significant negative impact on the diversification index at the one percent level of significance in MENA oil exporters; an increase of one percent in control of corruption leads to an 0.69 percent decline in diversification in these countries (in other words, there will be an 0.69 percent increase in economic diversification if control of corruption increases by one percent since a low diversification score indicates a high level of diversification). Therefore, the rate of improvement in diversification brought on by replacing MENA oil exporters' control of corruption scores with those of Canada is 0.53 percent. Closing the control of corruption gap determines how quickly MENA oil exporters can promote economic diversification.

Hansen J-statistics are insignificant and therefore the instruments are valid. Moreover, the models pass the Arellano–Bond test for second-order serial correlation.

Table 5. The required increase in control of corruption

Countries	(a)	(b)
	MENA oil exporters' control of corruption in 2019 (ß)	The required increase in control of corruption (α-ß)
United Arab Emirates	1.1063	0.6606
Qatar	0.8489	0.918
Oman	0.4521	1.3148
Saudi Arabia	0.2746	1.4923
Bahrain	-0.0102	1.7771
Kuwait	-0.1327	1.8996
Algeria	-0.6218	2.3887
Iran	-1.0479	2.8148
Iraq	-1.3366	3.1035
Libya	-1.6036	3.3705
Yemen	-1.6814	3.4483

Canada's control of corruption in 2019 (α) = 1.7669

Table 5 shows how much MENA oil exporters need to increase their control of corruption scores to catch up with those of Canada in order to accelerate the process of economic diversification.

Column (b) reveals that non-GCC countries need to exert much more effort compared to GCC countries in order to catch up with Canada's control of corruption level. Most non-GCC countries must first address the serious problem of instability. The more unstable the environment, the harder it is to control and handle corruption. Then, the next step is to implement radical institutional reforms and make sure that adequate checks and balances are in place to detect and prevent corruption by enhancing public regardedness of policymaking and strengthening the horizontal accountability of governments.

5. Conclusion

This paper aims, on the one hand, to investigate the impact of corruption on economic diversification in 11 oil-abundant MENA countries (Algeria, Bahrain, Iran, Iraq, Kuwait, Libya, Oman, Qatar, Saudi Arabia, the UAE, and Yemen) and three successful diversifiers (Canada, Norway, and Malaysia) over the period 1996-2019 using the Arellano-Bond difference GMM estimator that is effective in addressing the endogeneity problem. On the other hand, the paper aims to reveal how much the level of economic diversification will

increase if MENA oil exporters have control of corruption scores similar to that of a successful diversifier like Canada. In line with the literature, the findings indicate that control of corruption exhibits a statistically significant negative effect on the diversification index (in other words, higher control of corruption leads to more diversification, since a high diversification score indicates a low level of diversification). Estimations show that higher oil rents lead to poor diversification in oil-exporting MENA countries while they appear to contribute to economic diversification in the peer group of countries. Moreover, agriculture, industry, and services seem to be strongly and positively influenced by control of corruption. The joint impact of control of corruption and oil rents is effective in boosting economic diversification in MENA oil exporters. High human development, innovation, private sector credit, and political stability are of paramount importance in accelerating economic diversification in these countries.

This paper goes beyond the current state of the literature by estimating two models before and after replacing MENA oil exporters' control of corruption scores with those of Canada. Before the replacement, control of corruption appears to be negatively and significantly linked to the diversification index at the five percent level of significance in oil-rich MENA countries; an increase of one percent in control of corruption leads to an 0.16 percent decline in diversification in these countries (in other words, there will be an 0.16 percent increase in economic diversification if control of corruption increases by one percent since a low diversification score indicates a high level of diversification). Then, after the replacement, control of corruption appears to display a significant negative impact on the diversification index at the one percent level of significance in MENA oil exporters; a one percent increase in control of corruption leads to an 0.69 percent decline in diversification in these countries (in other words, there will be an 0.69 percent increase in economic diversification if control of corruption increases by one percent since a low diversification score indicates a high level of diversification). Therefore, the rate of improvement in diversification brought on by replacing MENA oil exporters' control of corruption scores with those of Canada is 0.53 percent. Closing the control of corruption gap determines how quickly MENA oil exporters can promote economic diversification.

The most significant contribution of the paper is that it shows how much MENA oil exporters need to increase their control of corruption scores to catch up with those of Canada in order to accelerate the process of economic diversification. The results reveal that non-GCC countries need to exert much more effort compared to GCC countries in order to catch up with Canada's control of corruption level. Furthermore, most non-GCC countries must first address the serious problem of instability since the more unstable the environment, the harder it is to control and handle corruption.

MENA oil exporters can embrace economic diversification by prudently managing their oil earnings and efficiently reinvesting them in non-oil sectors. This requires enhancing accountability, promoting greater transparency, and successfully weeding out corruption. The governments of these countries need to overcome public cynicism and restore public trust and

credibility, which is the keystone for people's confidence. The fight against corruption must be the main motivation for reform efforts. Past economic reforms and diversification policies were designed by policymakers who didn't concede that corruption is rampant and should be urgently addressed, and have been implemented by corrupt governors who failed to stick to the law and didn't lawfully exercise their power. This is one reason why so many reform efforts failed and economic diversification didn't materialize. Designing policies that result in the acceleration of economic diversification requires a remarkably open and corruption-free environment, which, in turn, needs a strong collaborative partnership between governments (at both the central and local levels), civil society, and the private sector on anti-corruption issues. This collaboration must be backed by a fair and impartial judicial system for enforcement and effective checks and balances that reduce opportunities for corruption. Developing the adequate checks and balances necessary to make sure that what is promised is actually delivered may take time, but MENA governments must relentlessly insist on the enforcement of checks and balances against corruption. An anti-corruption campaign can only succeed if it is made part of the larger question of democracy, but oil-exporting MENA countries continue to suffer from an extreme lack of democracy and therefore need to urgently address democratic shortcomings by giving citizens a greater say, expanding citizen participation (especially at the local level), helping maintain an informed citizenry, and modernizing their constitutions.

For the sake of economic diversification, MENA oil exporters must strengthen their democratic institutions that were severely curtailed de facto and de jury, promote democratic rules that were massively violated and manipulated, and introduce appropriate forms of the democratic accountability that was ultimately undermined. Mature democracies can efficiently manage their oil revenues, and successfully diversify their economies and export bases because of their ability to reach a consensus on a commitment to implement broad reforms related to economic diversification, which is a shared goal of citizens who need to be economically empowered to improve their own wellbeing and that of their families.

It is imperative that MENA governments improve the business-enabling environment by removing arbitrary controls that encourage bribes, cancelling unnecessary regulations wherever possible, reducing bureaucratic red tape to a minimum, combating fraudulent practices, and fighting against cronyism, nepotism, clientelism, and patronage that reached their peaks in the Arab world. It is also necessary to enhance capacity building, encourage innovation, and ease access to credit for the private sector, as this is a powerful toolkit for these governments to speed up the process of economic diversification and gradually shift emphasis away from excessive reliance on crude oil revenue as both a source of foreign exchange and government revenue toward the development of non-oil sectors that are alternative sources for generating income outside the oil sector.

Countries like Iraq, Libya, and Yemen must first restore stability, stop violence, and alleviate suffering because stability is an essential precondition for achieving broad-based economic diversification. Political stability remains the missing link in beginning a careful experiment

with political and economic reforms and instituting the necessary structural changes in these countries. Many war-torn countries succeeded in restoring political stability and reviving the economy after years of civil war. It is possible that unstable oil-exporting MENA countries will end conflict and bring back stability. After this kickstart achievement, they might consider introducing smaller reforms as a first step that would pave the way for later steps.

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