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This paper traces the evolution of fiscal institutions of Resource Rich Arab Economies (RRAEs) over time since their pre-oil days, through the discovery of oil to their build-up of oil exports. It then identifies challenges faced by RRAEs and variations in their severity among the different countries over time. Finally, it articulates specific policy reforms, which, if implemented successfully, could help to overcome these challenges. In some cases, however, these policy proposals may give rise to important trade-offs that will have to be evaluated carefully in individual cases.

Reforming Fiscal Institutions in Resource-Rich Arab Economies: Policy Proposals *

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Abstract

This paper traces the evolution of fiscal institutions of Resource Rich Arab Economies (RRAEs) over time since their pre-oil days, through the discovery of oil to their build-up of oil exports. It then identifies challenges faced by RRAEs and variations in their severity among the different countries over time. Finally, it articulates specific policy reforms, which, if implemented successfully, could help to overcome these challenges. In some cases, however, these policy proposals may give rise to important trade-offs that will have to be evaluated carefully in individual cases.

Keywords: E02, E62, H50, H60, H61, O53.

JEL Classifications: Fiscal policy, fiscal institutions, fiscal sustainability, public spending efficiency, budget transparency, fiscal rules, volatility, oil curse, Arab World, oil exporters, and Middle East and North Africa.

* This paper was written before Hoda Selim was employed by the International Monetary Fund. The views expressed in this paper are those of the authors and do not necessarily represent those of the International Monetary Fund or IMF policy.

1. Introduction

As demonstrated in Mohaddes et al. (2018) – especially Chapters 2 to 7 – the special characteristics of natural resource-rich countries – such as the price volatility of their exports, the exhaustibility of these resources, uncertainty of their revenues, pro-cyclicality of their budgetary expenditures, and vulnerability to rent seeking (especially in the weak institutional environments in which many of them operate) – all pose severe challenges for fiscal policy and institutions in Resource Rich Arab Economies (RRAEs) and beyond.

This paper serves two primary functions: first, to identify challenges faced by RRAEs and variations in their severity among the different countries over time, and second to articulate specific policy reforms that could contribute in overcoming these challenges. In order to provide some background, we begin with a historical overview of the fiscal institutions of some individual countries. To this end, we cover periods *before* and *after* the discovery of oil, and for both the earlier oil producers and those becoming major oil producers after the 1950s. This historical background makes it clear that while oil revenues over the last half century have greatly lowered the incentive in RRAEs to develop the kinds of democratic and legal institutions that have emerged elsewhere, the Gulf Cooperation Council (GCC) countries seem not to have had the incentive to develop these institutions even before oil was discovered in the region.

The rest of this paper is organized as follows. Section 2 provides the historical overview of Arab oil exporting countries of the region *before* oil, then in the early years of oil until the 1980s and of the several key international, institutional and political changes that took place over these periods. Section 3 identifies each of the several challenges deemed to be most important and common across the RRAEs, but also variations in their severity across the RRAEs and over time. These sections provide the background information and motivation for Section 4 where we identify reforms that we feel could be of considerable help to the RRAEs (and potentially other oil exporters) in dealing with the various challenges they are facing. Finally, Section 5 offers some concluding remarks.

2. Historical Background

This section provides an account of the budgetary situations and institutions of the Gulf Cooperation Council (GCC) countries: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates. More specifically, we investigate what the budgets of the GCC countries looked like before oil was discovered and the implications of significant oil revenues for budgets and fiscal institutions in the region.

2.1 Before Oil

Before oil, the tribal and other societies of the current GCC region were largely merchant societies relatively open to international trade and therefore much of their revenues came from customs duties collected from the merchants (Herb, 2014). The importance of customs revenues of course varied with the quantities of imports and the number of ship arrivals at the ports. In this context, these societies did not benefit from well-defined budgetary institutions, and the distribution of revenues reflected the political economy dynamics between the merchants and the rulers.

What is interesting, and as noted by Herb (2014) and Lorimer (1908a, 1908b), the openness/autocratic character of the budgets varied from one source to another, with Kuwait, at that time at least, being the one where the rulers had the greatest power relative to the merchants. The autocracy in Kuwait at that time had come only recently, when in 1896 Mubarak al-Sabah staged an intra-royal family coup and then built a custom's house to collect the taxes himself. This was very different from what had been common earlier, wherein the merchants collected the revenues but then shared them with the ruling family.

In Dubai, (before it became part of the United Arab Emirates), the ruling Al-Maktoum family had welcomed traders by offering lower taxation. The provision or sale of land to merchants also constituted an important source of income.

During the Great Depression of the early 1930s, new sources of revenue started to appear in the form of fees paid by the international oil companies for exploration rights. These revenues were appropriated directly by the ruler. In Kuwait, merchants formed a coalition with the weaker members of the royal family who, too, had been squeezed by the declining trade revenues and their much lesser access to exploration revenues. They formed a National Council, backed also by the British (Herb, 2014) that called for elections to an assembly. By 1939, however, when the power of the merchants had been further weakened by the continuing depression, the ruler and other members of the ruling family came back together to share the new oil exploration fees more fully among each other, but at the expense of the merchants.

A similar attempt to form an assembly arose in Bahrain but the British resident in Bahrain stood up against this and played a considerable role in Bahraini policy (Herb, 2014). In the other Gulf sheikhdoms where the merchant classes were smaller, reform movements to provide them with more representation, like those in Kuwait and Bahrain, did not arise.

Not surprisingly, the corresponding data on the *expenditures* side of the budgets before oil are even less precise than that on the *revenue* side. Since some members of the royal families often

undertook certain official responsibilities, it was also not easy to determine how much, if any, of the allocations to royal family members were compensation for services rendered as opposed to simply returns accruing to their elite ownership status. In some cases also, members of the royal family were among the more prominent merchants of the private sector. Yet, in most cases, it was clear that allocations to the military, police and the royal families themselves were among the most important expenditure categories in the before-oil period.

Saudi Arabia differed from the other GCC countries on both the revenue and expenditure sides of the budget. Because external trade was somewhat less important, fees obtained from visitors on the Hajj (the annual Islamic pilgrimage to Mecca) were the most important source of Saudi revenues. Because of their large role on the revenue side of the budget, religious authorities also came to play a more important role than merchants on the expenditures side of budgets. Prior to oil, there had thus been little need in these countries to develop the kinds of fiscal institutions capable of raising taxes from the local populations.

2.2 The Coming of Oil

The discovery of oil occurred in this poor institutional environment in which rulers did not face significant restraints on their power and enjoyed ample access to rents which they used primarily for private purposes (Galal and Selim, 2013). Oil was first discovered in the region in Iran in commercial quantities at Masjid-i-Suleiman on 26 May 1908 (Mohaddes and Pesaran, 2014), soon thereafter in Iraq, and then in 1929 also in Bahrain. Once oil was discovered in these locations, exploring for it and producing it throughout the region became a very attractive pursuit for international oil companies (mostly British, French and American) because unlike in much of the rest of the world, in the Middle East it was found in large pools, reasonably near the surface and usually not far from ports, which made it cheap to extract, to generate large value added per drilled oil well, and to export. Given that oil production is capital intensive, exploration followed by production and export could be accomplished by the oil companies in the Gulf quite rapidly, without having to recruit or train large numbers of workers (Issawi, 1982). While oil was discovered in many of the countries in the region by the beginning of World War II, it was not until 1950 that the oil sector became important in the economies in the region, and specifically in terms of government revenue (Mohaddes and Pesaran, 2014).

By 1950, 12 years after significant amount of oil in commercial quantities had been found in Dhahran, Saudi Arabia had become a major oil producer and with King Abdulaziz Ibn Saud's threat to nationalize the oil company, the King had managed to reach and an agreement with the Arabian

American Oil Company (Aramco) to reduce the foreign oil company's share to 50 percent. This encouraged other countries in the region to renegotiate their contracts with the international oil companies (for instance Iraq in 1952), and as such secured much larger revenues to the host governments. Notably, as the oil revenues started to rise in Saudi Arabia and elsewhere, the royal families began to loosen their purse strings and accumulate large debt (AlShehabi 2017).

The presence of colonial powers in several such countries gave them an opportunity to intervene in the budgetary process and they at least claimed to introduce more budgetary discipline. In most cases, such attempts were resisted by the ruling families. Although significant amount of oil had been found in Kuwait in 1937, its oil boom began only early in the 1950s, prompting the British to try to install advisors to control the budgetary process. Yet, Kuwait's rulers refused to go along with this, instead appointing members of the royal family and other local elites to top (financial) positions in the government aimed at establishing an overall balance of power. The new team installed an Audit Bureau to protect against major inefficiencies in budgetary allocations, but, in this case at least, in a way that was independent of the British (AlShehabi 2017). Shortly after Kuwait's independence, however, and in response to demands by Iraq for its annexation, a major institutional reform occurred (Herb, 2014). In particular, its Audit Bureau and budgetary procedures were set up under the jurisdiction of parliament and the audited accounts were made public, making Kuwait not only the most democratic country in the region but also the one with the most open, transparent and well-defined budgetary institutions, at least at that time. Notably also, in the early years of this transparent budgeting system, the amount of funds allocated to the Emir and his family was limited to a specific amount. Subsequently, as oil revenues increased, the absolute amounts allocated to the Emir increased, but in percentage terms they were reduced.¹ Moreover, in 1953, Sheikh al Sabah established the Kuwait Investment Board as a vehicle to manage the assets of the country. That investment board later became known as the Kuwait Investment Authority (KIA), a fund for the future generations as well as to promote diversification of the economy, and more commonly known as the world's first Sovereign Wealth Fund and primary holder of government assets (Bahgat, 2011).

British efforts to impose their own advisor with controls over Qatar's budget went even further than in Bahrain and Kuwait but were much less successful due to push back from the royal family. This is reflected in the fact that, even after the first such budget of Qatar was produced in 1950/51, over 40 percent of the total budget was allocated to the royal family (AlShehabi 2017). The pressures of the

¹ This is not to say that Kuwait's system immediately after independence was perfect. Indeed, as AlShehabi (2017) indicates, an important omission was the absence of regulations on land purchases by the government which could be allocated to influential people including members of the royal family. Over the period 1953-1970 these land purchases amounted to over 20 percent of total revenues.

various different families within the royal family to receive their share of the budget and government posts became increasingly clear. Lying behind this may have been that several different family members were well-armed and commonly made armed threats if the oil funds were not sufficiently shared among royal family members (Crystal, 1990). Not surprisingly, therefore, even a few years later (1958) another British agent reported that the Al Thani clan's share in oil revenues had climbed to 45 percent (Herb, 1999).

It is impossible to overstate the importance of the rulers in the region in upholding the "authoritarian bargain" in their budgetary decisions. They offered their citizens public goods and jobs in return for their willingness to allow the sovereigns to manage their oil and other revenues and to run the affairs of government without interference. The case of Abu Dhabi may serve as an important example of the growing consensus among monarchies in the GCC region of the need to commit some of their oil resources to long term development objectives and the welfare of their citizens. Oil was discovered in Abu Dhabi in 1958 and five years later it was being exported (Shemirani, 2011). However, the Amir of Abu Dhabi at the time, Sheikh Shakhbut bin Sultan Al-Nahyan, refused to spend the oil revenues, fearing that doing so would undermine the country's traditional social fabric and lead to social instability. All other members of the Al Nahyan family, on the other hand, believed that change was both important and inevitable, and together with the backing of the British suggested that he would abdicate (Zahlan, 1998). He stepped down in 1966 and was immediately replaced by his younger brother Sheikh Zayed bin Sultan Al Nahyan, who a few years later went on to push for the establishment of the United Arab Emirates (UAE) and became the first president of the Emirates. Just before independence and the creation of the UAE in December 1971, Sheikh Zayed created the Abu Dhabi National Oil Company (ADNOC), and not long thereafter, its currently very large Sovereign Wealth Fund, the Abu Dhabi Investment Authority (ADIA).

From the 1950s to the 1970s, the external influence of colonial powers in at least the budgetary process and governance waned in the region and was followed by nationalization of oil companies. Moreover, the foundation of the Organization of the Petroleum Exporting Countries (OPEC) in 1960 by Iran, Iraq, Kuwait and Saudi Arabia (in addition to Venezuela) led to the coordination of policies and weakening the unity of the large international oil companies by (among other things) prohibiting any company which was in a dispute with any OPEC member government from increasing production in any other OPEC country (Rustow, 1983).

Since the 1980s, while the GCC and other oil endowed Arab countries in the region have managed to ramp up production significantly and thereby securing significant oil revenues, they have had very mixed success in improving their budgetary and fiscal institutions. See, for instance, AlShehabi (2017) for the

GCC in general, Suliman (2018) for Sudan, El-Enbaby and Selim (2018) for Bahrain, and Soto (2018) for the UAE, as well as Eid (2015) for Saudi Arabia, Benbouziane and ElHannani (2015) for Algeria, Al-Mejren (2015) for Kuwait, and Al Said and Al Foori (2016) for Oman

This section has shown that weak institutions have predated the discovery of oil. The latter has greatly lowered the incentive in RRAEs to develop the kinds of democratic and legal institutions that have emerged elsewhere; such as the introduction of income and corporate taxation in other emerging and developing countries. However, what this historical section makes clear is that because of their small populations and reliance on revenues in the form of import duties, fees on religious pilgrims, GCC countries have *never* had that incentive, not just after the coming of oil.

3. The Challenges: Shortcomings in Oil Revenue Management

RREs in developed and democratic countries face many of the same challenges as the RRAEs, such as volatility of their public revenues and the need for generating non-oil tax revenues to reduce volatility and pro-cyclicality of government spending (Cavalcanti et al, 2015). Yet, treating the same challenges can be much more challenging in Arab RREs, because of (1) the much weaker incentives to develop the kinds of institutions which would allow income or corporate taxes to be developed, (2) the lack of transparency in their budgeting and governmental decision-making, and (3) the fact that many other markets and institutions function less well. Hence, in general not only are the challenges greater but they are also more multifaceted and numerous in RRAEs. Below we discuss the most important challenges for the RRAEs identified in Mohaddes et al. (2018) as well as in the broader literature.

3.1 Accounting for the Transfer of Oil Revenues to the Government

In most RRAEs, where the national governments are the owners of oil and therefore entitled to its revenues (at least since the early 1970s), the reporting of oil sales normally takes the form of a report on the sales flow from the oil companies (usually state companies) to the state treasury (Devlin, 2010, Ch 4, Ross, 2012, and Anderson and Ross, 2014). If such accounting is incomplete or otherwise deficient, however, this may give rise to substantial amounts of missing funds which may signal illicit capital outflows and corruption. Global Financial Integrity has conducted an exercise showing that there have indeed been substantial shortfalls in oil revenues making their way into the general budgets of RRAEs; see, for instance, Kar and Freitas (2011). They revealed large and rapidly growing illicit financial outflows over the 2000-2008 period in the Arab region. Indeed, the accumulated values of these “illicit outflows” in Saudi Arabia, UAE, Kuwait and Qatar were identified as the 4th, 6th, 7th, and 12th largest in the world,

respectively. While these flows simply reflect unrecorded transactions, and cannot prove corruption by specific agents, at a minimum, as Kar and Freitas (2011) noted, they point to the incomplete accounting of transactions between oil companies and host governments. The clear implication is that the missing funds are not used to fund public goods like health and education or to achieve economic growth and diversification.

In an effort to detect these illicit flows and also to reduce, or even eliminate them, the Extractive Industries Transparency Initiative (EITI) was created to promote open and rigorous accounting standards around the world, especially in resource exporting countries. It primarily relies on voluntary cooperation between governments, private companies, and civil society to enhance transparency in the oil and mining sectors. Membership of EITI is granted, conditional on the country's willingness to commit to open and rigorous accounting standards – especially on all transactions between oil and mineral extracting companies and governments – and to submit its accounts to the EITI for its own assessment of adherence to the commonly accepted standards of the organization. To come up with these standards, EITI has brought together the relevant stakeholders in the industry (oil and gas companies and investors, governments, and civil society). While over 50 different RREs have at some stage joined the EITI, some of them have withdrawn and not all the remaining members are considered to be compliant with the standards. In fact, only 51 countries are progressing to meet the 2016 EITI standards, with Iraq currently being the only Arab RRE, although it has so far (according to the EITI) made “inadequate progress”.

To help identify the factors giving rise to these missing funds and poor utilization thereof, one can make use of Natural Resource Governance Institute's (NRGI) Resource Governance Index, which evaluates the relevant state resource and related companies in each natural resource country, based on several different indicators and each of these on a number of sub-indicators. At first, its country coverage was quite limited, but by 2013, it covered 58 oil and gas countries, including 10 from the MENA region. The first column of Table 1 presents the 2013 Overall Resource Governance Index for both the ten MENA countries rated in that year and a somewhat representative sample of non-MENA major oil and gas countries. With the exception of Turkmenistan (the country with the lowest score on the index) one can see that the oil and gas institutions in most non-MENA countries were ranked well above the corresponding institutions of MENA countries, even though many of the former were located in underdeveloped regions of Africa and Latin America.

[Insert Table 1 here]

By 2017 the NRGI increased the country coverage of oil and gas institutions in the MENA region to 14 countries. Although the construction of the indices over the two different years was by no means identical, there were substantial similarities. To facilitate possible comparison, in the second column of Table 1 we present the country scores on the Overall Resource Governance Index for 2017 for both the 14 MENA countries and the same subsample of non-MENA countries. Among the MENA countries, the Overall Index increased between 2013 and 2017 for Iran and especially for Kuwait and Qatar, but fell modestly for Algeria, Bahrain, Egypt, and more substantially for Yemen, but not to the same extent as Venezuela's Overall Index did among non-MENA countries.

In the next two columns of Table 1 we report the two most important components of the 2017 Overall Index, namely those for Value Realization, which mainly deals with the sales side of oil and gas, and of the policies and mechanisms used in selling, and Revenue Management, which as its heading suggests is the most relevant one to the budgetary and fiscal management focus of this paper. Note that with the minor exceptions of Iran, Iraq, Libya and Sudan among the MENA countries, the scores on the Revenue Management component are lower than those on the Overall Index for 2017, often by a considerable margin. Yet, this patterns of relatively poorer scores on the Revenue Management Component is much less obvious among the sample of non-MENA countries.

The final two columns in Table 1 report the 2017 governance scores for the leading state-owned natural resource company and for the major Sovereign Wealth Funds in each country. The scores in these (and all the other) columns of the table are based on a 0-100 scale, with 75 and above rated as "good", 60-74 as "satisfactory" and those below 30 as "Failing". The entries in the relevant columns of Table 1 imply that not a single MENA country attained a "satisfactory" or "good" rating on either the Overall Index or the Revenue Management component in 2017 and at most three MENA countries did so in the State-Owned Enterprise or SWF categories. Likewise, eight of the 14 MENA countries were rated as "failing" in terms of Revenue Management. The 2017 Resource Governance Index report states that much of the shortcomings on these two components were attributable to politically motivated investments, corruption and extreme opaqueness; to the extent that it is not clear who actually benefits from these investments. Therefore, this suggests that poor governance in the oil sector could help explain the substantial missing funds as reported by Kar and Freitas (2011) in the Global Financial Integrity report, and many of the other inefficiencies to be identified below.

3.2 Going Further into the Budgetary Institutions

However, the Resource Governance Index relates primarily only to the accounting and transparency standards within the state oil companies and SWFs. Still more important may be what happens when the revenues are funneled into the national budgets of the RRAEs. Even more than the oil revenues within state companies, poor performance in national budgeting can be blamed on the lack of openness of the budgets at different stages in their development, ranging from proposal to execution, follow up and evaluation. While this may be a characteristic of many oil-exporting countries, the extreme lack of transparency seems especially prominent in the RRAEs and is seemingly traceable to the apparent sensitivity of the ruling families to information about the shares of revenues going to them, as well as their military and religious group allies.

Table 2 presents sets of scores from the Open Budget Survey for several Arab oil exporters as well as (for comparison purposes) for some non-Arab oil countries over the years 2006 to 2017. Also presented are the unweighted averages for both sets of country groupings for each of the years.

[Insert Table 2 here]

As shown in Table 2, in any given year, the average score for Arab RREs is only a fraction of that for the non-Arab oil exporting countries. While there seems to be some narrowing of the gap in average scores between the two sets of countries between 2008 and 2015, between 2015 and 2017 that gap widened again, as a result of the plummeting scores on the Open Budget Index for Algeria, Sudan and Yemen between these two years. Moreover, outside of Yemen (before that country's deterioration into what is often referred to as a failed state in the last couple of years), no other Arab oil exporting country has had its Open Budget Index score exceeded that of the non-Arab exporters except Equatorial Guinea. Although Algeria, Sudan and Yemen had all shown considerable improvement in their scores between 2008 and 2015, there was no improvement in the scores of Iraq, Qatar, and Saudi Arabia, and for the remaining Arab oil exporters, Bahrain, Kuwait, Oman, and UAE, the information was seemingly insufficient to even allow them to be scored.

Given the emphasis on transparency and accessibility in the Open Budget Index, without going into all the different indices for democracy, political rights and civil liberties, it should be clear that much of the differences in scores between Arab and non-Arab oil exporting countries on this index can be attributed to the much lower scores of RRAEs on these various measures of democratic institutions.

Minor exceptions to the lower scores of the RRAEs than those of non-Arab oil exporters are Equatorial Guinea and to a lesser extent Angola, Azerbaijan and in the last couple of years also Venezuela.

3.3 Shortcomings in the Construction, Use and Composition of Budgets

Next, we identify five additional and important shortcomings in the construction and use of budgets and related fiscal institutions in RRAEs. The *first* such shortcoming is that budgets are formulated on an *annual* basis. Only with multi-year budgets can the fiscal authorities be in position to adjust a future year's budgetary expenditure caps downward to compensate for fiscal shocks in the current fiscal year such as one coming from an oil price shock. Aside from facilitating counter-cyclical policies, multi-year budgets can also allow the authorities to maintain short-term stability without losing focus on the attainment of long-term objectives. This failure to integrate single year with multi-year budgeting into the same budgeting system has been repeatedly brought up by the International Monetary Fund (IMF) in its consultations with Kuwait and Oman (International Monetary Fund 2013, Al-Mejren, 2016, and Al-Said and Al-Foori, 2016).

Another major factor contributing to the pro-cyclicality in the RRAEs is the dearth of non-oil taxation in the form of individual, corporate income, and value-added taxation, the receipts of which tend to be highly pro-cyclical, thereby reducing the pro-cyclicality of incomes net of taxes. Section 2 has indicated that in RRAEs this has by no means been limited to their experience after the discovery of oil. Table 3 presents data taken from the IMF's Government Financial Statistics showing the shares of tax revenues in both GDP and total public revenue for several oil exporting countries of the MENA region and for Norway. Note that whereas in Norway the share of tax revenue in GDP is well over 20% and that in total public revenue is over 50%, among the oil exporters of the MENA region, the only countries with tax shares exceeding or even coming near to those of Norway are Algeria and Qatar. In these two cases, however, the tax shares are artificially inflated by the fact that the oil revenues are treated as either taxes on oil corporations (as in Qatar) or taxes on goods and services produced by oil companies (as in Algeria).² Indeed, after one accounts for the entries in the last column, one can see that non-oil tax revenues are negligible in all MENA oil exporters, implying that no RRAE has taken advantage of this potentially very useful means of reducing pro-cyclicality (and diversifying revenue streams).

[Insert Table 3 here]

² Even though Oman has maintained a corporate tax rate of 10% on both domestic and foreign firms since the 1970s, as indicated in Table 3 these still do not account for a substantial share of total revenues.

While pro-cyclicality can adversely affect individual welfare and business conditions in a number of ways, one important sign of such harm is the tendency for bankruptcies to rise in oil-exporting countries in the years of sharp reductions in economic activity immediately after negative oil price shocks. As a proxy for bankruptcies, in Table 4 we present the changes in the percentages of banks non-performing loans in total gross loans outstanding before and after two important oil price changes in the last two decades, namely 2008-9 and 2014-2016 (or 2013-2015 when 2014-6 data was not available). Given the scarcity of data on non-performing loans on a comparable basis in RRAEs, in this case, we draw more heavily on other oil exporting countries for which this data is available. Certainly, many other factors besides pro-cyclicality and oil price declines can be responsible for the increasing percentages of banks non-performing loans in the years identified. Note, however, the tendency for them to rise (in many cases quite substantially) in most oil exporting countries (five of the six cases among Arab oil exporters and 16 of the 20 non-Arab oil exporters) while for the world as a whole in 2014-2016 that percentage declined, suggesting that this could indeed be an important consequence of the volatility of oil rents and the absence of countercyclical fiscal policies. The plausibility of such a connection is indicated by the fact that increases in non-performing loan percentages were much smaller or even non-existent in counties like Norway and Mexico which had a higher score on the Open Budget Index or higher percentages of non-oil tax revenues than the other oil exporters in Table 4 (or both).

[Insert Table 4 here]

The *second* important shortcoming in the budgetary processes of RRAEs we identify concerns the *composition of expenditures* in their budgets which strongly reflects the attempt of the rulers to satisfy the perceived social contract with their citizens. The political economy literature predicts that, when government accountability is lacking, resource booms induce politicians to expand very visible public sector employment (Robinson et al., 2006). As argued by Malik (2018), budgets become a tool for distributing oil wealth to the privileged elites rather than to the poor or future generations. In practice, budgets in the GCC have allocated significant (and excessive) portions of current public spending to these elites in the form of high paying jobs and subsidies (Galal and Selim, 2013). Ali and Elbadawi (2016) show that the provision of well-remunerated public-sector jobs can constitute an affordable, though unfortunately only very short-run, measure for RRAE rulers to remove the incentive to revolt.

For example, countries like Kuwait and Qatar employ around two-thirds of their nationals in the public sector, and Saudi Arabia, Oman and Bahrain only a bit less than 50 percent (IMF 2013). Hodson

(2013) describes these jobs as lifetime employment, paying high wages and generous fringe benefits while entailing short working hours. The average salary of a Saudi civil servant is three times the average wage for Saudis in the private sector. Pension packages are also generous (Al-Sheikh and Erbas, 2016). This has skewed the preferences of Saudi workers sharply toward government employment (which is much less productive), making it difficult for private employers to attract Saudis, and serving as a disincentive for nationals to invest in the skills demanded by private employers.

Especially distortionary has been the tendency in the wake of Arab Spring uprisings (in other Arab countries) for RRAE leaders to make sudden commitments to large increases in wages and/or of employment levels of nationals in the public sector. For example, Qatar's Decree 50 of 2011 issued by its monarch dictated that social allowances and pensions of civil service employees and military officers should suddenly rise by 60 and 120 percent, respectively.

In addition, citizens in the GCC are provided free healthcare, education and social security. While these transfers increase citizen welfare, since they are politically motivated, without any checks and balances, leaders (often the sovereigns themselves) are able to increase spending irrespective of existing budgetary procedures.

An unfortunate characteristic of subsidies, be they on fuel, housing, electricity and other items, is that they tend to be increased rather automatically with oil prices, irrespective of budgetary procedures. Table 5 (from Clements et al., 2013 and Coady et al., 2015) demonstrates, the large size of fuel subsidies in RRAEs in those years by comparing the pump price for a liter of gasoline in some of these countries with what they were in three European countries (Denmark, the Netherlands, and Norway) which can serve as at least a crude benchmark for international prices. To provide a rough idea of their importance in the economy as a whole, it then divides these by GDP. As can be seen from the last two columns of Table 5, the fuel subsidies are generally quite large relative to their respective education budgets. While from the figures for the European countries one can see that the gasoline prices at the pump more or less doubled between 1995 and 2012 as oil prices went up sharply, those for several Arab oil exporters (especially Algeria, Libya and since 2000 also Saudi Arabia) actually fell.³

[Insert Table 5 here]

³ Note that prior to 2012, Iran was the country with the lowest price of gasoline at the pump (\$0.10 per liter).

Fuel subsidies in RRAEs (as well as elsewhere) are sometimes defended as a means of preventing poor people from being pushed below the poverty line by higher oil prices. Yet, the detailed studies in Clements et al. (2013) and others typically show that, in fact, most of the benefits of these subsidies are captured by people with high incomes.⁴ Note also that there are many more efficient ways of reducing poverty than through general fuel subsidies.

Still another harm imposed on RRAEs by heavy use of fuel subsidies derives from their distortion of relative prices. For example, these subsidies discourage investments in the energy sector which otherwise could have increased the efficiency of extraction, refining and transport. This relative price distortion also primarily benefits capital-intensive industries that use energy intensively at the expense of labor-intensive activities that could generate more employment to meet the growing problems of unemployment among nationals in the region. By artificially increasing the domestic demand for fuel, these fuel subsidies also limit the total amount of fuel available for export and accelerate natural resource depletion.

The *third* unfortunate shortcoming of the budgetary systems of RRAEs we wish to note is that actual expenditures have tended to exceed budgeted ones in most categories, and especially in subsidies, transfer payments, and government expenses on wages and salaries. Much of this seems to be politically driven, as it has been especially common in countries like Kuwait and Oman where the parliaments play a large role in the budgetary process, and before elections as in Algeria and Oman (Al-Mejren 2015, Al Said and Al Foori, 2016, and Benbouziane and Elhani, 2016).

The *fourth* additional shortcoming in RRAE budgets is their insufficient comprehensiveness. Although varying somewhat from country to country, commonly omitted are the revenue and expenditure of the military, the royal families, or other important government services such as the police and foreign service, national oil companies and other state-owned enterprises.⁵ Since many of these excluded items are large and volatile, their exclusion severely limits the ability of budgetary authorities to manage, monitor, and impose discipline over government spending and thereby to achieve stabilization, decrease volatility and cyclicity, and to evaluate the efficiency of such expenditures and their allocation. Since some of these expenditures are often unusually high, their exclusion from many of the RRAE budgets greatly limits the relevance and usefulness of these budgets

⁴ For example, according to the International Monetary Fund (2014, p.2) "...in Sudan, the poorest 20% of the population receives only about 3% of fuel subsidies, whereas the richest 20% captures more than 50%."

⁵ Malik (2018) mentions that even the gigantic Saudi Aramco budgetary figures are not included in the Saudi national budget. For Yemen, see De la Torre (2008).

and prevents the broader public from learning how large such expenditures really are (Benbouziane and Elhanani, 2016).

Even more common in their exclusion from RRAE budgets are what are commonly referred to as government related entities (GREs). These include government enterprises which, even when not included in the budgets, can upset the country's finances by suddenly requiring issuance of substantial debt or having to be bailed out by the government through non-budgetary expenditures. As Soto (2018) describes, in the UAE the magnitudes of deficit spending of this type can be very high, and their exclusion prevents these expenses from being constrained by the central budgetary authorities.

[Insert Table 6 here]

When military expenditures are excluded from the budgets of RRAEs, this can be a very serious omission since as shown in Table 6, they are for many such countries quite large. More specifically, this table shows the average shares of military expenditures in GDP for Norway, followed by ten large RRAEs and five smaller ones for 1990-99, 2000-06, and 2007-2014. It is based on data from the leading international source of such statistics, the Stockholm International Peace Research Institute. As a member of NATO, Norway is not surprisingly committed to allocating a non-negligible portion of its GDP to military expenditures. Yet, even though not required to contribute to NATO or any equivalent regional scheme, notice that not a single one of the other 15 countries in Table 6 has a lower share of military expenditures in GDP than Norway in any of the periods. While the high share of Kuwait during the 1990s is understandable because of its invasion by Iraq, it is hard to see why the other RRAEs should have military shares in excess of those of Norway. Indeed, in several cases and especially in the more recent periods of high oil prices, their military shares in GDP have been several times as high as those of Norway. A major reason for the emphasis on these countries on military is believed to be the heavy reliance of the autocratic leaders on support from the military and also their attempt by military strength to generate a feeling of national pride and security in the citizenry.

Table 6 also reports the shares of Military arms in total imports. One of the reasons for including these figures is the widespread acceptance among scholars, especially of the Middle East (Askari 2006, Askari et al. 2009 and Askari 2012) that arms imports are often a quite secretive and convenient means of hiding illicit transfers. The table shows that, at least for the period of comparatively high oil prices after 2000, each of the RRAEs except Iran (which was under international sanctions) had shares of military arms in total imports considerably larger than those of Norway. This could well be indicative of

military imports serving as a means of concealing both illicit transfers and excessive government expenditures.

The *final* important shortcoming in government budgeting in RRAEs we wish to point to is that commodity booms often lead to lower quality/inefficient public investments and other budgetary expenditures, calling attention to insufficient evaluation of public spending, including investment spending. Devarajan (2018) traces inefficient public spending in RRAEs to weak government accountability for oil revenues. The ensuing lack of transparency provides insufficient incentives for citizens to scrutinize how their governments spend their oil revenues, providing these governments with greater leeway in spending, often resulting in waste and fraud. Wasteful spending often takes the form of “white elephants”, investment projects with negative social surplus, which are used as a means of inefficient redistribution aimed at artificially raising popular support for existing leaders (Robinson et al., 2006), or public enterprises which are either not sustainable or sustainable only with large subsidies. In many cases also, the inefficiency of investments may be the result of weak administrative systems and limited ability to scale-up expenditures rapidly and to monitor and evaluate projects. This is likely to be especially common in the poorer Arab oil economies of Yemen and Sudan as suggested by Suliman (2018).

One of the most obvious examples of inefficiency in investment allocations reflecting the absence of appropriate program evaluation was the huge infrastructural and heavy industry public investment program undertaken by Algeria in the 1970s. As Auty (2003) has documented, the economic returns on these investments were extremely low. Not only were the Algerian investments extremely capital-intensive, and thereby unable to create the jobs that were needed at this time of high unemployment, but also many of the firms invested in were left with negative profits and accumulating debts which were in turn rolled over by state-owned banks. This had the effect of discouraging private investment in both the banking industry and the private sector more generally, indirectly contributing to negative real interest rates over much of the period that induced insufficiency in saving and inefficiency in the use of capital.

4. Policy Recommendations

In view of the numerous and often severe challenges posed by the existing problems in government budgeting and fiscal institutions, the purpose of this section is to identify several important policy reforms designed to help these Arab oil exporting countries overcome these shortcomings and thereby to render fiscal policy more effective. The desired timetable for these reforms may depend heavily on

the circumstances of the individual country, on the character of the specific reform, and on the price of oil at the time. However, given the seriousness of some of the threats to the financial sustainability of public budgets and income growth resulting from these fiscal shortcomings in the current era when oil prices are substantially lower than in the pre-2014 period and thereby limiting economic growth in the region (Mohaddes and Raissi, 2018), early action would seem warranted in most cases.

Since the resource-rich countries which have adopted desired policy reforms have for the most part been democratic countries like Canada, Chile, and Norway, some may argue that the suggested reforms are only likely to be feasible once substantial democratization and other political reforms have taken place. Yet, we believe that even short of such deep-seated institutional reforms, good leaders may have incentives to make these reforms even in the absence of deep-seated political reform. For example, as Caselli and Cunningham (2009) suggest, the leaders may do so once they see it in their long-term interest to sacrifice their monopoly on information and control in order to make the necessary reforms. When these reforms are carried out efficiently, the sizes of their respective economies may be increased by transforming natural capital into physical and human capital and thereby diversifying their economies and lowering volatility. In line with this view, the first recommended reform is to open up budgets to greater transparency.

4.1 Budgetary Information and Transparency

As described earlier, all RRAEs continue to suffer from shortcomings in the availability and transparency of budgetary data and operations. In order to hold policymakers accountable and to strengthen governance, the public (particularly parliament and civil society organizations) needs information on how oil resources are generated and then spent (or saved). Continued action to enhance transparency and accountability in the oil sector will therefore help to further strengthen governance, enhance budgetary execution and direct budgetary resources toward priority needs. Since there are many ways in which the budgets are at present incomplete and non-transparent, several somewhat different reforms of this type are suggested below.

First, is the need to integrate into the budgetary accounts all sources of revenue and expenditure, some of which are at present off-budget, but large in size and therefore important for both transparency and comprehensiveness purposes. Fiscal transparency in the collection and utilization of natural resource revenues through appropriate accounting, reporting, and auditing is important. To this end, RRAEs need to follow good practices, including a clear assignment of roles and responsibilities of different government entities, establishing an open budget process and making budgetary information

publicly available. A useful starting point to address this problem would be for the oil exporters to join EITI and to follow its recommendations and those of the Natural Resource Governance Institute to assure that more of the oil revenues actually make their way into the budgets.⁶ Even more important and general, however, is the need to assure inclusion of the aforementioned often excluded types of expenditures.

Several specific strategies may be followed to bring about inclusion and disclosure. One obvious way to do so is to make very explicit the comprehensiveness of all that should be included in the budgets. Then, the budgetary and other fiscal information should be made much more fully available so that more individuals can easily identify budgetary items which should be in those budgets but cannot be found. This should be followed by imposing stiff penalties on those organizations and agents which do not comply. The inclusion and disclosure of such information as military expenditures, subsidies and public enterprise expenditures should also discourage excessive expenditures in these categories that, as noted above, are often associated with inefficiency and corruption.

A second supplementary strategy is to implement a participatory approach in the process of budgetary review. This could include professional budgetary evaluation and auditing agencies, including ones independent of the executive branch of government, and some perhaps external to the country, such as a regional council of finance ministers, or a relevant professional research organization. While this could also be done by a legislature, as Posner and Park (2006) have shown, this may not necessarily bring greater responsibility in budgetary management. Indeed, as shown in the case of Bahrain by El-Enbaby and Selim (2018), when legislatures are allowed to participate in budgetary decisions, intra-legislature conflict can contribute to a proliferation of expenditures over and above the budgeted amounts to please these competing constituencies. This can be controlled, at least to some extent, by maintaining hierarchy in budgetary formation.

A third useful strategy is to cooperate fully and participate in the Open Budget Surveys which provide incentives for maximum comprehensiveness of the budget and full disclosure. Moreover, peer members of these surveys and their advisors at relevant international organizations such as the IMF, World Bank and other agencies, can offer advice to fiscal authorities in the RRAEs on how to improve the comprehensiveness of their budgets and their evaluations of the expenditures they have made. These same pressures should also contribute to reducing inefficient government consumption

⁶ We do not mean to suggest that doing so is likely to bring about a quick improvement in budgetary or other performance as suggested by Sovacool et al (2016).

expenditures and increasing the allocations deemed useful to efficient human and physical capital accumulation.

4.2 Sovereign Wealth Funds

While many Sovereign Wealth Funds (SWFs) have been in existence for over half a century (such as the Kuwait Investment Authority which was founded in 1953), a large number of funds have been established (by major commodity exporters in particular) over the last two decades. These SWFs accumulated large assets during the most recent oil-price boom (2002-2008), have played a major role in reserve management of commodity revenues, and contributed to macroeconomic stabilization in several cases. SWFs have been established for a variety of reasons, ranging from fiscal stabilization (that is to help smooth the impact on government spending of revenues that are large and volatile), to long-term saving for future needs of the economy, or of specific groups such as pensioners, or for future generations. One of the main short-term objectives of SWFs is to counter the adverse macroeconomic effects of commodity price volatility and as such they represent a potentially important vehicle for mitigating pro-cyclical fiscal policy (e.g. Aizenman and Glick, 2008, Elbadawi et al., 2017, and Mohaddes and Raissi, 2017).

Yet, thus far at least, many of the SWFs in Arab countries seem not to have lived up to their full potential; see, for instance, Bazoobandi and Nugent (2017). Once again, data shortcomings on SWFs remain a severe barrier to properly evaluating their quality, making it impossible to compare the different SWFs, and to make accurate assessments of the effects of qualitative differences among them. Not to mention that different Arab countries may at any point in time find themselves in quite different situations, justifying that their SWFs adopt quite different investment objectives (such as intertemporal equity, or attraction of foreign FDI, or generating local business complexes for employment generation to mention a few). Nevertheless, one important step for some of the weaker RRAE SWFs would be to strengthen their staff, organize them so as to focus on the particular objectives of their respective SWFs. Another is to make available sufficient information on their investments, the bases of their evaluation of investment targets, and to demonstrate their adherence to international standards put forward by the International Forum for Sovereign Wealth Funds. This should allow them to be rated by SWF evaluators such as in the Transparency Index of Linaburg and Maduell (LM) which is reported widely by the Sovereign Wealth Fund Institute and the SWF Scoreboard (Bagnall and Truman, 2014 and Truman, 2013).

Overall, the RRAEs need to improve the management of volatility in resource income by better utilizing forward-looking institutions such as Sovereign Wealth Funds or adopting short-term mechanisms such as stabilization funds, for instance, by saving more aggressively when oil prices are high and spending accumulated revenues when prices are low. More importantly perhaps, the government can use these vehicles to intervene in the economy by increasing public capital expenditure when private investment is low. Alternatively, the government can use these funds to increase the complementarities of physical and human capital, such as improving the judicial system, property rights, and human capital. This would increase the returns on investment with positive effects on capital accumulation, total factor productivity, and growth.

4.3 Fiscal Rules and Other Policies for Dealing with Procyclicality and Other Challenges

The adoption of fiscal rules can help contain year-to-year fluctuations in resource prices and thus contribute to smoothing revenues and putting upper bounds on increases in spending when oil prices are high. In addition, they could potentially mitigate discretionary interventions by governments (Daniel et al. 2013) and very importantly mitigate fiscal pro-cyclicality. In practice, the adoption of a fiscal rule would require larger fractions of oil revenues to be siphoned off from the budget into a “rainy-day” fund when oil prices are above some threshold, and funds poured into the budget from the rainy-day fund when oil prices are below this threshold. As discussed above, the Sovereign Wealth Funds that most RRAEs have established, if properly managed, should offer convenient as well as suitable locations into which oil revenues (above a designated threshold) could be deposited.

The number of countries across the world adopting fiscal rules is said by the IMF to have grown considerably from a small set of 10 countries in 1990 to 30 in 2001 and 51 in 2009, a majority of which are developing or transition economies (International Monetary Fund, 2009). Yet, to date, not a single Arab country has both adopted and retained anything that could be regarded as a fiscal rule. Therefore, the recommendation that RRAEs adopt appropriate fiscal rules should be treated as a high priority and long overdue. Naturally, the nature of the fiscal rule should be tailored to the circumstances of the individual country. For instance, Devarajan et al. (2014) provide a nice example of how an appropriate set of rules might be selected.

GCC countries would benefit from setting a target for the structural budget balance based on an estimate of the long-term oil price. This indicator would net out the cyclical impact of the level of economic activity and hydrocarbon prices that affect central government income. Thus, the structural balance equals structural revenues plus interest on net government assets minus actual expenditures on

goods and services. It therefore reflects the financial balances that the central government would have achieved if that country's GDP had been at its trend level and hydrocarbon prices had been at their long-term level. Qatar is the first GCC economy to have initiated steps to formally adopt a medium-term budget framework to enhance the predictability of spending decisions and link its medium-term development plans to the budget. Nevertheless, even Qatar has yet to implement such a scheme.

Countries like Yemen and Sudan have shorter resource horizons and greater uncertainty about production volumes, with drastic implications on the sustainability of their public spending once resources are depleted. In addition, they need to accumulate broader domestic capital bases with which to achieve savings for the future. These countries could benefit from setting a target for the non-resource fiscal balance (which is an indicator of the capacity of the economy to absorb the resource revenues without causing inflation and a large current account deficit) at a level that can be maintained after their resource are depleted. This would avoid the need for abrupt breaks in government expenditures or tax increases after the natural resources have been depleted, given that the non-resource fiscal balance gradually converges to the overall balance as resource revenues decline (Daniel et al., 2013).

In more concrete terms, one suggestion is that a regional board of Finance Ministers and other fiscal analysts could contribute to the adoption of fiscal rules, perhaps also encouraged by a regional organization such as the Arab Fund or the GCC. There seems to be considerable scope for better coordination of fiscal decision making and in laying down fiscal rules and policies not only across, but also within, the countries of the region. As noted by Soto (2018), coordination among the individual Emirates of the UAE within a more formal and comprehensive federal government could serve as a means of coordinating their actions and avoiding the undesirable consequences that have arisen when coordination was lacking.

In addition, Ter-Minassian (2010) lists seven other actions (a fiscal responsibility law, modern financial management, a multi-year planning horizon, rules for government asset and liability management, requirements on accountability and public information on the government's financial management, effective control and auditing) that should be undertaken to increase both the likelihood of fiscal rules being adopted and their effectiveness once adopted.⁷ Some of these have already been

⁷ Note also that Schmidt-Hebbel (2016) points to the Fiscal Responsibility Law that Chile adopted in 2006 and that served to provide a strong and more binding legal basis for the government to meet the specifications of the fiscal rule that it had adopted five years earlier. Other steps that Chile has taken include the development of two SWFs aimed specifically at decreasing volatility and putting a floor on the percentage of government savings to assure the sustainability of the country's pension systems and putting the budget cycle on a four-year basis.

mentioned among our own recommended reforms. Along similar lines, but based on the extremely useful simulations of alternative rules to be used in existing SWFs by Alswellem et al. (2015a, 2015b), we also recommend the following five policies: (1) adopting a savings rate rule that (unlike Kuwait's fixed rule or the lack of specific rules as in Saudi Arabia's SAMA and Abu Dhabi's ADIA) is highly progressive to the difference between the current world oil price and/or the country's current level of extraction relative to that of the past average, such that all oil revenues attributable to an oil price above a relatively low benchmark price (of say \$30 a barrel) be saved;⁸ (2) invest in a diversified portfolio of high quality international assets in the form of equities and bonds (as both Kuwait and Saudi Arabia have done), although with a 70-30 split between these instead of the greater emphasis on more liquid but lower-return assets; (3) link the savings rule not only to oil revenues but also to returns on the foreign assets; (4) adjust the savings rate also to country-specific characteristics, such as the age distribution of its current work force, or absorptive capacity of its current population;⁹ and (5) lower the possibility of discretion or rule avoidance by keeping the rules simple and by introducing sharp distinctions in the roles assigned to the agents involved in different stages of SWF or budget design and implementation (such as in formulating the savings rule, enforcing it, doing the accounting, and choosing the investments).

Short of establishing fiscal rules and the more comprehensive laws to assure adherence to the fiscal rules and to make them work, we provide the following three policy suggestions.

(a) Introducing (new) taxes. As noted above, since virtually all types of taxes have the desired effect of introducing some degree of counter-cyclical, introducing income, corporation, sales and other taxes can be a useful means of reducing the unfortunate pro-cyclical of existing budgetary systems in RRAEs and more importantly preparing them for life after oil. Admittedly, since absence of taxation is often a means that RRAEs use to attract FDI, this may be politically difficult. A nice example, however, of how this difficulty might be mitigated is the recent proposal by the IMF for the GCC as a whole to establish a value added tax (VAT) in all member states so that it would not be seen as discriminatory against business in one state if done only in that state. Such a tax could be made even more countercyclical by specifying that the tax rate vary over time with oil prices.

In light of the longer-term concerns about declining oil revenues as a result of either depletion or falling oil prices, it is obvious that appropriate fiscal management in RREs must go well beyond

⁸ Such a rule is not only simple to apply and monitor but also has the greatest possible effect in reducing the pro-cyclical of government revenues and expenditures.

⁹ The latter would suggest that the savings rate should be higher (or alternatively that the proceeds targeted to educational or other activities designed to overcome this shortcoming should be greater).

whichever tax may be the easiest to implement. Citizens must be convinced that tax revenues are necessary in order to maintain the quantity and quality of the public goods and services that they value. Citizens are more likely to accept such taxes if they can be convinced that tax collection is honest, that their allocation through the budget system is efficient and that their revenues will generate the desired public goods and services. This would demonstrate a fundamental ability of the state, and thereby put an end to one of the chief contributors to the oil curse. The key is to get citizens to realize that it is in the country's interest to generate savings from revenues other than oil so as to make efficient investments for the future, both in the short run and in the long run (when oil is depleted). Income and corporation taxes are likely to be especially advantageous by being both progressive and countercyclical.

(b) Integrating short-term budgets with medium term ones and long-term development plans. To their credit, some countries have succeeded in linking and integrating their long-term development plans (such as "Vision 2030") with their year-to-year budgeting. Yet, experience suggests that more can be done, for example, such that oil price increases occurring late in a given fiscal year can be used to trigger changes in budgets for the next several years in ways that may lower their pro-cyclicality.

(c) Making more use of federal and regional structures. As noted in Section 4.1, the UAE has a federal structure, but a very weak one in which each of its emirates is granted complete autonomy over its own fiscal policy. Since the budgets of some of its individual emirates vastly exceed that of the federal UAE government and these individual emirates vary enormously in terms of the amounts of oil and gas they possess, this has greatly aggravated the problems of achieving budgetary control in the UAE as a whole, making it harder to achieve fiscal stability and to reduce dependence on oil revenues. A stronger federal structure enhanced with maximum fiscal deficits in individual emirates and penalties for violating such maximums and the adoption of non-oil taxes could help avoid the problems that have affected the UAE. The same principle would apply at the country level by integrating them into a regional institution like the GCC and imposing fiscal deficit ceilings and other budgetary features on a GCC-wide basis. Since, there are a number of other countries in the world with federal structures in which the states or provinces also have budgets, the experience of these countries should be investigated to see more precisely when and how they have been successful in mitigating pro-cyclicality of natural resource rents and limiting risks.¹⁰

¹⁰ One such an example is Australia, wherein according to Jay (1977) this country's Loan Council managed to curb the abilities of its individual states to undertake loans to finance large expenditures in any particular fiscal year.

4.4 Project and Program Evaluations

To improve the efficiency of public spending, it is essential to have strong public financial management systems, including the abilities to provide reasonable forecasts of resource revenues, to undertake medium-term budgeting, and to identify fiscal risks on both the revenue and expenditure sides. An especially important need is the introduction of proper program evaluation methods to identify low productivity programs and expenditures, either prior to or soon after implementation, so that they can be either revised in ways to make them productive or terminated in a timely manner.

There may of course be understandable factors underlying the dearth of careful evaluation studies. For instance, the insider nature of many of these investments and the heavy emphasis placed on the public sector may be a significant contributing factor. Such insiders do not want to delay implementation of their projects until their initial plans are fully analyzed and do not want information about their projects to be circulated to either potential competitors or the general public. But, given the increasing evidence of corruption in most countries of the region (see especially Nugent, 2011), insiders should be well aware of the fact that, when their uses of funds for certain public or private projects are neither fully disclosed nor evaluated, trust in them by the general public is likely to erode rapidly. For this reason, to remain in positions where they can exercise control over such resource allocation, honest insiders should realize that it is in their best interest to make their use of these funds transparently and subject to proper evaluations. Once the culture is changed in this respect, experience elsewhere has shown that such evaluations can be made compulsory, giving every ministry or firm responsible for such a project the responsibility to design, execute and audit the project in such a way as to justify future rewards of the right to receive funds for executing additional projects.¹¹

Another factor underlying insufficient project and program evaluation may be the absence of technical know-how and experience. Indeed, El-Enbaby and Selim (2018), Soto (2018), and Suliman (2018) have suggested that, in some countries at least, the currently existing auditing agencies and project evaluation units may be insufficient in one or more such respects. Fixing them should then be a high priority and in the meantime it might be useful to draw on international expertise.

A final important recommendation, especially for projects in the public sector where there may exist a number of different ways to satisfy a single objective, is to make use of randomized control trials

¹¹ For example, according to an interview by Jeff Nugent with Dr. Chung-Ming Kuan, a former Minister of the National Development Council of the Executive Yuan and Professor at National Taiwan University, this is what happened in Taiwan. From a situation in which earlier the various ministers were reluctant to have their projects properly evaluated, it eventually became the case that every ministry was eager to have all its projects reviewed and competently so as to demonstrate its worthiness to carry out additional development projects in the future.

(RCTs) to see which methods are most cost-effective. Similarly, where in practice the projects turn out to be less socially profitable than they were expected to be, they should be routinely re-investigated to identify specific shortcomings that could be rectified by revising the existing programs. The prompt rectification or revision of failing programs could go a long way to raising total factor productivity over time (which as shown in Soto (2018) for the UAE tends to be very low in RRAEs).

4.5 Reducing Inefficient Public Expenditures

In low-capacity and low-governance environments and to ensure that public spending is allocated towards high-quality public investment projects, a gradual increase in spending may be advisable for the more highly populated RRAEs, with an initial focus on investing resources to remove existing bottlenecks, a process sometimes called “investing in investing” (Collier, 2010). Yet, in view of the evidence cited in Section 2 concerning excessive and unjustified government spending on government salaries of nationals and subsidies, and indeed rising trends in these over time (at least until very recently),¹² these politically motivated tendencies resulting from fears unrealistically instilled in leaders in the wake of Arab Spring events should be strongly resisted. Moreover, each of the following more specific objectives should be given priority attention.

(a) Controlling salaries for public sector employees, revising labor laws and stimulating competition. Policy makers need to be made cognizant of the fact that these high salaries of nationals in the public sector severely distort the local labor market, discouraging nationals from entering the private sector. Wages and salaries and benefits of nationals in government service should be limited to what their productivity justifies. Labor regulations should be changed so as to accomplish reduction in public sector wage rates and increase those of the private sector, thereby eliminating the need for the government to meet the demand for employment by young nationals by offering them unneeded government jobs at artificially high wage rates. Raising the wage rates in the private sector for highly trained nationals should both stimulate the desire for learning among young nationals and allow their employment in the private sector to constitute a strong and dependable source of technology upgrading and TFP growth.

(b) Removing subsidies for fuel and housing. As demonstrated in Section 3 and Table 5, the costs of fuel subsidies in RRAEs are extremely high and have been estimated to be as high as 10% of GDP in Saudi Arabia, at least until recently. Removing such subsidies altogether, therefore, could go a long way

¹² See also Askari (2006), Hertog (2011), Gray (2013), Hodson (2013) and Malik (2018).

toward reducing the budgetary bias toward current consumption and the relative price distortions that increase pollution, environmental degradation, smuggling, and discrimination against labor-intensive activities. Contrary to popular conception, removing these subsidies is not likely to increase inequality among the citizenry. The current period of low oil prices should make it much easier for RRAEs to reduce their subsidies.¹³

(c) Reforming pensions and social insurance to make them sustainable. The rulers of Arab oil-exporting countries have attempted to legitimize themselves at least in part also by subsidizing health insurance and long periods of retirement with generous pension programs. While at first, these were primarily for workers in the government sector, more recently these benefits have been extended to those few nationals working in the private sector. While insurance and pensions of these sorts are desirable, in most cases these programs are designed on the basis of unrealistically low mortality ages and allow for retirement at very young ages, rendering these programs vulnerable to large future cost overruns (Robalino and Bogomolova, 2006 and Whitehouse 2007). Such problems need to be taken care of immediately.¹⁴

(d) Increasing employment of nationals in the private sector. Especially now that the private sector is beginning to be counted on to bring high technology and productivity to the non-oil sectors of the RRAEs, encouragement needs to be given to nationals to join the private sector. This should be accompanied by raising educational quality and skills development so as to raise productivity to make nationals more competitive for private sector hiring. The jobs should be both sufficiently numerous to absorb the rapidly growing number of nationals into the labor force and of sufficient quality to justify their higher wage rates and make use of their improving educational backgrounds.

Programs to encourage entrepreneurship among nationals, the establishment of new types of small and medium-sized enterprises (SMEs), credit provision to SMEs, and labor training by firms can also foster private employment of more highly skilled workers.

¹³ See for example the IMF's free online course on energy subsidy reform: <https://www.edx.org/course/energy-subsidy-reform-imfx-esrx-0>.

¹⁴ A useful example of a pension scheme which has been quite successful in making the adjustments in payment schedules and other rules for keeping the scheme sustainable over time is the system used by Japan's Ministry of Health, Labor and Welfare. There, a highly professional commission is convened once every five years, comprised of care providers, the elderly, the working people paying the premiums, and the managers of the social security program. The regular five-year schedule makes both the involvement of all relevant stakeholder groups and adjustments to the rules less costly to arrange, and it also reduces the magnitude of the changes needed to keep the system solvent, efficient and sustainable on the basis of internally generated funds. At the same time it minimizes the risk of social conflicts among the relevant stakeholders.

Meanwhile, improving labor rights and working conditions for private sector workers could serve to reduce the widespread criticism of RRAEs in the rest of the world for the extreme lack of protection for foreign workers and for their inability to move from one employer to another. As a result, two initiatives that GCC countries as a whole might wish to consider are a tightening of regulations on the use of foreign workers and increasing the extent of competition in the private sector, by eliminating exclusive dealerships and other monopolistic features.¹⁵

In the past, some of these countries have experimented with a variety of means to meet this challenge. For instance, efforts have been made to incentivize the private sector to employ nationals through subsidized credit, energy, water and other inputs. Another approach has been to restrict the inflow of foreign workers by adding taxes and fees to the hiring of such workers or alternatively to impose quotas on the use of foreign workers. Yet, as indicated above, because these jobs will need to be increasingly skilled and the workers embedded with an excellent work ethic, success in this respect is likely to require large improvements in the educational systems, labor law reforms, labor training by private employers, and very substantial improvement in the work ethic of educated nationals.¹⁶ Still another mechanism that might be useful would be to attract the kind of foreign investment that could fill in missing links in value chains within these countries and thereby substantially broaden and make internationally competitive industrial complexes such that they might sustain the productivity of higher wage private sector jobs that would be attractive to nationals. Notably, UNCTAD (2015) has provided an overall design of a comprehensive investment policy framework that would be broad enough to deal not only with these and other issues but also with environmental sustainability.

5. Concluding Remarks: Going Beyond Fiscal Policy

While the last several paragraphs have called for the need to revise labor regulations, most of our policy recommendations have been related to the need for fiscal reform. However, the ability to accomplish these objectives as well as to adopt favorable fiscal institutions and/or to increase their effectiveness so as to minimize the excessive volatility of government revenues and expenditures, rent-seeking,

¹⁵ Notably Ali and Elbadawi (2016) develop a political economy model giving existing rulers (or elites) alternative means of maintaining their position, repression via the military, or buying off the opposition with high public sector wage rates. They show that countries like Algeria with large populations would choose the first method whereas GCC countries with small populations would choose the second because fewer nationals would need to be paid.

¹⁶ The extreme importance of this last requirement for success is emphasized by Peck (2014) in her analysis of Saudi Arabia's Nitaqat Program.

corruption, the lack of transparency in the making, implementing and auditing of budgets, and the lack of proper program evaluation, may depend very heavily on a number of other institutions.

Some notable progress has been made in identifying those particular institutions that seem to make these reforms feasible or especially effective, referred to as “stepping stones” in the terminology of North et al. (2009) and Besley and Persson (2011, 2014). However, existing studies differ on the identity of the institutions that are most important for improving fiscal management. Potential institutional reforms could involve stronger efforts to achieve central bank independence (as suggested by Selim, 2018), improving the rule of law, and various components of governance; including possibly government efficiency, political stability, and the extent of checks and balances (clearly, more research is warranted in terms of the latter).

Furthermore, the current relatively low oil prices environment might present a good opportunity for the GCC and most other Arab oil exporters to revisit a number of policies including their exchange rate regimes. While there is evidence that resource-rich countries with fixed exchange regimes tend to perform systematically better than countries with other exchange rate regimes (Kamar and Soto, 2018), Elbadawi et al. (2018), have shown that the success of fixed rate regimes has still varied considerably, being most successful in those countries with international reserves above a certain threshold. Moreover, Frankel (2018) proposes that oil-exporting countries should peg their national currencies concurrently not only to a broader basket of currencies of major trading partners (including both the dollar and the euro) but also to the price of their major export commodity (in this case oil).

In no way do we pretend to identify one or another among these various methods of improving fiscal management as an optimal means for the governments of RRAEs to provide jobs and investment opportunities for nationals as well as to maintain social stability and make their development sustainable in the long run. The lesson to be drawn from such concerns for fiscal management in resource-rich Arab economies is to indicate that the kind of fiscal management that will be needed to satisfy the multidimensional concerns (for fiscal sustainability, social stability, economic diversification, and good governance to mention but a few) is multi-faceted and complex. Piece-meal approaches are unlikely to be effective. Clearly, what is required is comprehensive reform in fiscal and related management programs, including deep-seated institutional reform. Only then, will growth and development in RRAEs be made sustainable.

Tables

Table 1: Scores on Resource Governance Indexes of the Natural Resource Governance Institute

Country	2013 Overall Index	2017 Overall Index	2017 Value Realization	2017 Revenue Management	2017 State-Owned Enterprise	2017 Sovereign Wealth Fund
MENA Countries						
Algeria	38	33	40	25	47	21
Bahrain	47	39	27	26	32	32
Egypt	43	39	45	30	36	
Iran	28	38	36	45	22	70
Iraq	47	38	52	47	66	
Kuwait	41	54	44	51	65	61
Libya	19	18	27	20	32	32
Oman	n.a.	50	32	43	32	47
Qatar	26	43	33	19	55	4
Saudi Arabia	34	36	23	24	27	18
Sudan	n.a.	21	26	26	13	
Tunisia	n.a.	56	60	40	66	
United Arab Emirates	n.a.	42	33	16	27	21
Yemen	43	30	50	28	40	
Other Countries						
Norway	98	86	77	84	80	90
Azerbaijan	48	47	49	43	70	52
Brazil	80	71	62	78	65	
Cameroon	34	54	59	70	52	
Canada	76	75	69	59		88
Colombia	74	71	59	85	73	100
Ecuador	58	54	51	58	56	
Ghana	63	67	65	65	75	93
Indonesia	66	68	64	76	66	
Kazakhstan	57	56	53	54	63	67
Mexico	77	61	64	54	74	45
Nigeria	42	42	50	44	54	4
Russia	56	45	47	40	56	40
Trinidad and Tobago	74	64	64	57	75	74
Turkmenistan	4	11	11	0	10	
Venezuela	56	33	48	34	58	22

Source : Natural Resource Governance Institute, 2013 and 2017 Resource Governance Indices

Table 2: Open Budget Index Scores of Arab and Non-Arab Oil Exporting Countries, 2006-2017

Country	2006	2008	2010	2012	2015	2017
Arab Oil Exporters						
Algeria		2	1	13	19	3
Bahrain						
Iraq			0	4	3	3
Kuwait						
Oman						
Qatar				0	0	0
Saudi Arabia		1	1	1	0	1
Sudan		0	8		10	2
UAE						
Yemen		10	25	11	34	0
Arab Oil Exporters Average		3.3	7	6.8	11	1.3
Other Oil Exporters						
Angola	5	4	26	28	26	25
Azerbaijan	36	37	43	42	51	34
Ecuador			31	31	50	49
Eq. Guinea		0	0	0	4	0
Indonesia	42	54	51	62	59	64
Kazakhstan		35	38	48	51	53
Mexico	50	55	52	61	66	79
Nigeria	20	19	18	16	24	17
Norway	72	80	83	83	84	85
Peru		67	65	57	75	73
Russia	47	58	60	74	74	72
Trinidad and Tobago		33	33	38	34	33
Venezuela		35	34	37	8	0
Other Oil Exporters Average	35.1	39.8	41.1	44.4	46	44.9

Source: International Budget Partnership, Open Budget Survey

Table 3: Shares of Tax Revenues by Type in Total Public Revenue (latest year available)

Country	Year	Tax Revenue % of GDP	Tax Revenue as % of Total Revenue	Taxes on Individual Income as % of Total Revenue	Taxes on Corporations as % of Total Revenues	Taxes on Oil labeled something else
Algeria	2010	34.7	92	6.5	0	28.5a
Bahrain	2010/1	1.2	4.3	0	0.6	89.2b
Iran	2010	7.4	n.a.	n.a.	n.a.	n.a.
Iraq	2016	2	7.5	2.1	3.7	84.1b
Kuwait	2015	1.4	3.6	0	0	91.2 c
Oman	2010/1	2.5	4.7	0	2.2	91.5c
Qatar	2010/1	14.7	42.8	0	40.2	54.6c
Saudi Arabia	2016	n.a.	15.7	0	2.9	79.0c
UAE ^d	2016	0	1.2	0	0	0
Norway	2015	22.4	55.9	n.a.	n.a.	n.a.

Notes: ^a indicates taxes on goods and services, ^b indicates sales of goods and services, ^c indicates property income, ^d indicates that these shares are of the federal budget of the UAE (not the aggregates of its individual emirates), and n.a. indicates data not available.

Table 4: The Percentages of Non-Performing Loans in Total Outstanding Loans of Oil Exporting Countries and the World as a Whole Before and After Oil Price Declines

Country	2008	2009	2014	2016
Arab Countries				
Algeria	17.60	21.10	9.20	11.40
Saudi Arabia	3.00	3.30	1.08	1.38
U.A.E.	3.25	4.18	5.64	5.30
Other Countries				
Angola			7.98 a	10.60 b
Australia	1.40	2.00	4.00	7.00
Brunei			3.85	4.62
Canada	0.80	1.30	0.50	0.60
Congo Republic			2.50	4.80
Ecuador			3.58	3.96
Equatorial Guinea			19.74	24.64
Gabon			4.07	6.65
Indonesia	3.20	3.30	2.07	2.90
Kazakhstan	7.10	18.90	12.39	6.72
Mexico	3.00	2.80	3.24	2.29
Nigeria	7.19	37.25	2.96	12.82
Norway	0.72	1.28	1.13	1.18
Papua New Guinea.	1.78	2.02	1.80	3.08
Peru			3.95	4.29
Russian Republic	3.80	9.53	6.73	9.44
Tajikistan	5.40	9.60	13.20 a	19.10 b
Trinidad and Tobago	2.44	4.88	4.06	3.12
Venezuela			1.90	3.02
World			4.07	3.92

Notes: a represents 2013 and b represents 2015

Source: World Bank Development Indicators and International Monetary Fund Global Financial Stability Reports.

Table 5: Fuel Subsidies in Arab Oil Exporting Countries, 1995-2014

Country	Pump Price per Liter of Gasoline							Pre Tax Energy Subsidies as % of GDP (2011)	Government Spending on Education as % of GDP (2011)
	1995	1998	2000	2002	2010	2012	2014		
Algeria	0.4	0.31	0.27	0.22	0.32	0.28	0.27	10.4	6.7
Bahrain		0.26	0.27	0.27	0.21	0.27	n.a	8.2	2.2
Egypt	0.29	0.29	0.26	0.19	0.48	0.45	0.88	10.3	3.1
Iran		0.08	0.05	0.07	0.1	0.33	0.374	12.3	4.6
Iraq					0.78		0.43	11.5	2.8
Kuwait		0.17	0.21	0.2	0.23	0.23	0.22	7.6	5.4
Libya		-	0.25	0.1	0.17	0.12	n.a	9.1	4.5
Oman		0.31	0.31	0.31	0.31	0.31	0.31	6	4.6
Qatar		0.16			0.19	0.27	0.23	4.2	1.6
Saudi Arabia	0.16	0.16	0.24	0.24	0.16	0.16	0.16	10.1	8
Sudan	0.5	0.33	0.28	0.3	0.62	0.75	0.82	1.7	3.2
UAE		0.23	0.25	0.29	0.47	0.47	0.47	5.9	1.3
Yemen		0.26	0.21	0.21	0.35	0.58	0.7	6.1	5
Denmark	1.08	1.05	1.01	1.09	2	2.02	2.01		
Netherlands	1.21	1.14	1.03	1.12	2.13	2.33	2.15		
Norway	1.33	1.21	1.19	1.23	2.12	2.53	2.27		

Sources: Columns 2-7 from World Bank World Development Indicators; Column 8 from Clements, Benedict, David Coady, Stefano Fabrizio, Sanjeev Gupta, Trevor Alleyne, and Carlo Sdradevich, eds. 2013. Energy Subsidy Reform: Lessons and Implications. Washington, D.C. International Monetary Fund.

Table 6: Measures of Military Expenditure and Arms Imports

Country	Military Expenditure (% of GDP)			Arms Imports (% of All Imports)		
	1990-99	2000-06	2007-15	1995-99	2000-05	2007-14
Norway	2.47	1.77	1.48	6.6	1.67	1.14
Algeria	2.78	3.27	4.29		2.15b	3.09
Bahrain	5.38	3.95	3.71	2.48	4.2	2.84
Iran	2.49	2.9	2.8	2.82	0.77	0.11
Iraq			3.21		2.75b	6.43
Kuwait	17.15a	6.06	3.67	10.72	4.47	3.67
Libya	4.4	2.03	3.74	0.56	1.55	0.64
Oman	14.23	11.8	11.8	5.4	1.78	2.42
Qatar	n/a	2.68	1.88		1.21b	1.89
Saudi Arabia	11.54	9.17	9.13	27.5	14.61	2.74
United Arab Emirates	7.7	5	5.13		5.0b	1.64
Egypt	3.22	2.95	1.9	8.98	9.05	3.19
Syria	7.13	5.2		2.28	1.48	3.54
Sudan	3.34	3.31	4.12	2.68	3.68	1.5
Tunisia	1.9	1.63	1.56	0.42	0.32	2.67
Yemen	6.12	4.83	4.65	3.74	4.68	0.9

Notes: Letter a indicates: 1991 omitted (117.3%), b: data available after 2004.

Sources: Military expenditure data from Stockholm International Peace Research Institute (SIPRI) Military Expenditure Database. Imports data from World Military Expenditures and Arms Transfers (WMEAT) is prepared and published by the U.S. Arms Control and Disarmament Agency, Department of State.

References

- Aizenman, J. and R. Glick 2008. Sovereign Wealth Funds: Stylized Facts about their Determinants and Governance, Federal Reserve Bank of San Francisco Working Paper Series 2008-33.
- Ali, O. and I. Elbadawi 2016. The Political Economy of Public Sector Employment in Resource Rich Countries, in Elbadawi, I. and H. Selim, eds, *Understanding and Avoiding the Oil Curse in Resource-Rich Arab Economies*. Cambridge University Press.
- Al-Mejren, A. 2015. Impacts of Fiscal Legal Setting and Institutions on Budget Outcomes in the Rentier State of Kuwait. *Economic Research Forum Working Paper No. 920*.
- Al Said, A. and A. Al Foori 2016. Budgetary Process and Fiscal Institutions: The Case of the Sultanate of Oman. Unpublished manuscript part of ERF's project on the Fiscal Institutions and Macroeconomic Management in Resource-Rich Arab Economies.
- Alshehabi, Omar 2017. "Show Us the Money: Oil Revenues, Undisclosed Allocations and Accountability in Budgets of the GCC States", LSE Kuwait Programme Paper Series 44, September, 2017.
- Al-Sheikh, Hend and S. Nuri Erbas 2012. The Oil Curse and Labor Markets: The Case of Saudi Arabia" ERF Working Paper No 697.
- Alswellem, Khalid A., Angeka Cummine, Malan Rietveld and Katherine Tweedie 2015a. A Comparative Study of Sovereign Investor Models: Sovereign Fund Profiles, Belfer Center for Science and International Affairs Harvard University, Kennedy School.
- Alswellem, K. A., A. Cummine, M. Rietveld and K. Tweedie 2015b. Sovereign Investor Models: Institutions and Policies for Managing Sovereign Wealth, Belfer Center for Science and International Affairs Harvard University, Kennedy School.
- Andersen, J. J., Ross, M. L., 2014. The Big Oil Change: A Closer Look at the Haber-Menaldo Analysis, *Comparative Political Studies*. 47, 993–1021.
- Askari, H. 2006. *Middle East Oil Exporters: What Happened to Economic Development?* London: Edward Elgar.
- Askari, H., A. Mohseni and S. Daneshvar 2009. *Militarization and Economic Development: A Case Study of the Persian Gulf Region*, North Hampton, MA Elgar.
- Askari, H. 2012. Oil Rents, Political and Military Policies, and the Fallout: Implications for Arab Oil Economies, in R. E. Looney, ed., *Handbook of Politics*, London: Routledge, 180-190.
- Auty, R.M., 2003. Third Time Lucky for Algeria? Integrating and Industrializing an Oil-Rich Country into the Global Economy, *Resources Policy* 29, 37-47.
- Bahgat, G., ed., 2011. *Energy Security: An Interdisciplinary Approach*, New York: Wiley.

- Bagnall, A. E. and E. M. Truman 2014, ISWF Report on Compliance with the Santiago Principles: Admissible but Flawed Transparency, Washington, D.C., Peterson Institute for International Economics Policy Brief.
- Bazoobandi, S. and J. B. Nugent 2017 Political Economy of Sovereign Wealth Funds in the Oil Exporting Countries of the Arab Region and Especially the Gulf, *Economic Research Forum Working Paper* No. 1143.
- Benbouziane, Mohamed and Farah Elias Elhani 2016. The Political Economy of Fiscal Policy: The Case of Algeria. Unpublished manuscript part of ERF's project on the Fiscal Institutions and Macroeconomic Management in Resource-Rich Arab Economies.
- Besley, T. and T. Persson 2011. *Pillars of Prosperity: The Political Economics of Development Clusters*, The Yrjö Jahnsson Lectures, Princeton: Princeton University Press.
- Besley, T. and T. Persson 2014. The Causes and Consequences of Development Clusters: State Capacity, Peace and Income, *Annual Reviews of Economics*, Vol. 6, 927-949. (2015)
- Caselli, F and T. Cunningham 2009. Leader Behavior and the Natural Resource Curse, *Oxford Economic Papers* 61 (4), 628-650.
- Cavalcanti, T. V. D. V., K. Mohaddes, and M. Raissi 2015. Commodity Price Volatility and the Sources of Growth. *Journal of Applied Econometrics* 30 (6), 857-873
- Clements, Benedict, David Coady, Stefano Fabrizio, Sanjeev Gupta, Trevor Alleyne, and Carlo Sdravovich, eds. 2013. *Energy Subsidy Reform: Lessons and Implications*. Washington, D.C. International Monetary Fund.
- Coady, I.W.H. Parry, L. Sears and N. Shang 2015. How Large Are the Energy Subsidies? IMF Working Paper 15/105.
- Collier, P. 2010. The Political Economy of Natural Resources, *Social Research*, 77, No 4: Winter, 1105-1132.
- Crystal, J. 1990. *Oil and Politics in the Gulf: Rulers and Merchants in Kuwait and Qatar*. Cambridge: Cambridge University Press
- Daniel, P., S. Gupta, T. Mattina and A. Segura-Ubiergo 2013. Extracting Resource Revenue, Finance and Development, September Washington, D.C.: International Monetary Fund.
- De la Torre 2008. Enhancing Government Effectiveness in Yemen: An Assessment of the Ministry of Finance, A Report Prepared by USAID.
- Devarajan, S., Y. Dissou, D. S. Go and S. Robinson 2014. Budget Rules and Resource Booms: A Dynamic Stochastic General Equilibrium Analysis. World Bank Group, Development Prospects Group and Middle East and North Africa Region, Office of the Chief Economist Policy Working Paper 6984.

- Devarajan, S. 2018. How to Use Oil Revenues Efficiently, forthcoming in K. Mohaddes, J.B. Nugent, and H. Selim (eds.), *Institutions and Macroeconomic Policies in Resource-Rich Arab Economies*, Oxford University Press, Oxford.
- Devlin, J. 2010. Oil. OPEC and the Challenges of Surplus Management, *Challenges of Economic Development in the Middle East and North Africa Region*, Ch. 4. World Scientific.
- Eid, A. G. 2015. Budgetary Institutions, Fiscal Policy, and Economic Growth: The Case of Saudi Arabia, *Economic Research Forum Working Paper No. 965*.
- Elbadawi, I., R. Soto and H. Youssef, 2017 *Sovereign Wealth Funds and Macroeconomic Stabilization in the Home Economy*, *Economic Research Forum Working Paper No. 1175*.
- Elbadawi, I. and R. Soto 2012. Resource Rents, Political Institutions and Economic Growth, *Economic Research Forum Working Paper 678*.
- Elbadawi, I., M. Goaid and M. Tahar 2018. Threshold Effects of Fiscal-Monetary Interdependence and Exchange Rate Regimes in Oil-Dependent Arab Economies, forthcoming in K. Mohaddes, J.B. Nugent, and H. Selim (eds.), *Institutions and Macroeconomic Policies in Resource-Rich Arab Economies*, Oxford University Press, Oxford.
- El-Enbasy, H. and H. Selim 2018. Fiscal Outcomes in Bahrain: Resource Volatility, Fiscal Institutions or Politics? forthcoming in K. Mohaddes, J.B. Nugent, and H. Selim (eds.), *Institutions and Macroeconomic Policies in Resource-Rich Arab Economies*, Oxford University Press, Oxford.
- Frankel, J. A. 2018. The Currency-Plus-Commodity Basket A Proposal or Exchange Rates in Oil Exporting Countries to Accommodate Trade Shocks, forthcoming in K. Mohaddes, J.B. Nugent, and H. Selim (eds.), *Institutions and Macroeconomic Policies in Resource-Rich Arab Economies*, Oxford University Press, Oxford.
- Galal, A. and H. Selim (2013). "The Elusive Quest for Economic Development in the Arab Countries", *Middle East Development Journal* 5 (1).
- Gray, Matthew 2013. *Qatar: Politics and the Challenges of Development*. Boulder: Lynne Rienner.
- Herb, M. 1999. *All in the Family: Absolutism, Revolution and Democracy in Middle Eastern Monarchies*, SUNY Press.
- Herb, M. 2014. *The Wages of Oil: Parliaments and Economic Development in Kuwait and the UAE*. Ithaca and London: Cornell University Press
- Hertog, S. 2006. *Modernizing without democratizing? The introduction of formal politics in Saudi Arabia*, *Internationale Politik und Gesellschaft*, 3: 65-78.

- Hertog, S. 2011. The Evolution of Rent Recycling during Two Booms in the Gulf: Business Dynamism and Societal Stagnation in M. Legrenzi and B. Momani, eds. *Shifting Geo-Economic Power of the Gulf: Oil, Finance and Institutions*. Farnham, UK: Ashgate., 55-74.
- Hodson, N. 2013. Breaking Loose: Reduced Private Sector Dependence on Governments in GCC Economies, in S. Hertog, G. Luciano and M. Valeri, eds, *Business Politics in the Middle East*. London: Hurst and Company 2013. 101-132.
- International Monetary Fund 2009. Fiscal Rules- Anchoring Expectations for Sustainable Public Finance, Discussion Paper
- International Monetary Fund. 2013. Oman—2013 Article IV Consultation Concluding Statement of IMF Mission. Retrieved February 4, 2014, from International Monetary Fund: <http://www.imf.org/external/np/ms/2013/051413.htm>
- International Monetary Fund 2014. “Energy Subsidies in the Middle East and North Africa: Lessons for Reform” Washington D.C., March, 2014.
- Issawi, Charles 1982. *An Economic History of the Middle East and North Africa*. New York Columbia University Press.
- Jay, W.R.C. 1977. The Australian Loan Council, *Publius, The Journal of Federalism*, Summer, 101-117.
- Kamar, B. and R. Soto 2018. Monetary Policy and Economic Performance in Resource Dependent Economies, forthcoming in K. Mohaddes, J.B. Nugent, and H. Selim (eds.), *Institutions and Macroeconomic Policies in Resource-Rich Arab Economies*, Oxford University Press, Oxford.
- Kar, D., and S. Freitas. 2011. *Illicit financial flows from developing countries over the decade ending 2009*. Washington: Global Financial Integrity, Washington DC.
- Lorimer, J. G. 1908a. *Gazetteer of the Persian Gulf, Oman and Central Arabia Vol. 2A: Geographical and Statistical Calcutta: Superintendent of Government Printing*
- Lorimer, J. G. 1908b. *Gazetteer of the Persian Gulf, Oman and Central Arabia Vol. 2B: Geographical and Statistical Calcutta: Superintendent of Government Printing*
- Malik, A. 2018. The Political Economy of Macroeconomic Policy in Arab Resource-Rich Economies, forthcoming in K. Mohaddes, J.B. Nugent, and H. Selim (eds.), *Institutions and Macroeconomic Policies in Resource-Rich Arab Economies*, Oxford University Press, Oxford.
- Mohaddes, K., J.B. Nugent, and H. Selim 2018. *Institutions and Macroeconomic Policies in Resource-Rich Arab Economies*, Oxford University Press, Oxford.

- Mohaddes, K. and M. H. Pesaran 2014. "One Hundred Years of Oil Income and the Iranian Economy: A Curse or a Blessing?" In P. Alizadeh and H. Hakimian (Eds.), *Iran and the Global Economy: Petro Populism, Islam and Economic Sanctions*. Routledge, London.
- Mohaddes, K. and M. Raissi 2017. Do sovereign wealth funds dampen the negative effects of commodity price volatility? *Journal of Commodity Markets*, 8, 18-27.
- Mohaddes, K. and M. Raissi 2018. The U.S. Oil Supply Revolution and the Global Economy. Forthcoming, *Empirical Economics*.
- Natural Resource Governance Institute 2017. 2017 Resource Governance Index
- North, D., J Wallis and B. Weingast 2009. *Violence and Social Orders: A Conceptual Framework for Interpreting Human History*. Cambridge: Cambridge University Press.
- Nugent, J. B. 2011. Detecting Corruption and Evaluating Programs to Control It: Some Lessons for MENA, *Proceedings of the Economic Research Forum Conference on Corruption, 2011*, 64-82.
- Peck, J. R. 2014. Can Hiring Quotas Work? The Effect of the Nitaqat Program on the Saudi Private Sector. Massachusetts Institute of Technology Working paper.
- Posner, P. and C-K Park 2006. Role of the Legislature in the Budget Process: Recent Trends and Innovations, *OECD Journal on Budgeting* 7 (3)
- Robalino, D. A. and T. Bogomolova 2006. Implicit Pension Debt in the Middle East and North Africa. World Bank Working Paper Series No 46.
- Robinson, J. and R. Torvik 2006. The Political Economy of the Resource Curse, *Journal of Development Economics*, 79, 447-468.
- Robinson, J. A., R. Torvik and T. Verdier 2015. The Political Economy of Public Income Volatility: With Application to the Resource Curse, NBER Working paper 21205, May 2015
- Ross, M. L 2012. *The Oil Curse: How Petroleum Wealth Shapes the Development of Nations*. Princeton: Princeton University Press
- R Rustow, D. A., 1983. Modernization, Oil and the Arab Countries, in I. Ibrahim, ed., *Arab Resources: The Transformation of a Society*. Beckenham: Croom Helm, 267-282.
- Schmidt-Hebbel, K 2016. Fiscal Institutions in Resource-Rich Economies: Lessons from Chile and Norway, in I. Elbadawi and H. Selim, eds, *Understanding and Avoiding the Oil Curse in Resource Rich Arab Economies*. Cambridge, Cambridge University Press.
- Selim, H. 2018. Does Central Bank Independence Matter in Arab Oil Exporters?, forthcoming in K. Mohaddes, J.B. Nugent, and H. Selim (eds.), *Institutions and Macroeconomic Policies in Resource-Rich Arab Economies*, Oxford University Press, Oxford.

- Shemirani, M. 2011. *Sovereign Wealth Fund and International Political Economy*. Farnham: Ashgate.
- Soto, R. 2018. Policy Goals, Fiscal Institutions and Macroeconomic Management in the United Arab Emirates, forthcoming in K. Mohaddes, J.B. Nugent, and H. Selim (eds.), *Institutions and Macroeconomic Policies in Resource-Rich Arab Economies*, Oxford University Press, Oxford.
- Sovacool, B.K., G. Walter, T. Van de Graaf and N. Andrews, 2016. Transnational Rules and the Resource Curse Exploring the Effectiveness of the Extractive Industry Transparency Initiative (EITI), *World Development* 83, July, 179-192.
- Stiglitz, J.E., Sen A.K., Fitoussi J.P. 2010. Report of the Commission on the Measurement of Economic Performance and Social Progress. Available at <http://www.stiglitz-sen-fitoussi.fr/en/index.htm> (accessed September 2011).
- Suliman, K.M. 2018. "The Political Economy of Fiscal Institutions and Macroeconomic Management in Sudan", forthcoming in K. Mohaddes, J.B. Nugent, and H. Selim (eds.), *Institutions and Macroeconomic Policies in Resource-Rich Arab Economies*, Oxford University Press, Oxford.
- Ter-Minassian, T. 2010. Preconditions for a Successful Introduction of Structural Fiscal Balance-Based Rules in Latin America and the Caribbean: A Framework Paper, Inter-American Development Bank, Discussion Paper 157.
- Truman, E. M. 2013. Implementation of the Santiago Principles for Sovereign Wealth Funds: A Progress Report, Policy Brief 13-31 Peterson Institute for International Economics.
- United Nations Conference on Trade and Development (UNCTAD) 2015. *Investment Policy Framework for Sustainable Development*. Geneva: UNCTAD
- Whitehouse, E. 2007. Pensions Panorama: Retirement-Income Systems in 53 Countries Washington, D.C.: World Bank.
- World Bank 2007. *The Road Not Travelled: Educational Reforms in the Middle East and North Africa*. MENA Development Report. Washington, D.C., World Bank.
- Zahlan, R.S. 1998. *The Making of the Modern Gulf States: Kuwait, Bahrain, Qatar, the United Arab Emirates and Oman*. Ithaca Press