

ERF²⁰²⁰ 26TH Annual Conference

Economic Diversification in the Middle East and North Africa: A Developmental Approach to Managing Non-renewable Resource Revenues

Amir Lebdoui





Paper submission to the ERF 26th Annual Conference

Paper title: Economic Diversification in the Middle East and North Africa: A developmental approach to managing non-renewable resource revenues.

Author: Amir Lebdioui

Institution: London School of Economics and Political Science (LSE)

Contact details: amirlebdoui@gmail.com / a.a.lebdioui@lse.ac.uk

Abstract

This paper investigates the political economy of managing resource revenues and economic diversification in Middle East and North Africa. The management of revenues from exhaustible natural resources involves a number of interrelated challenges, such as inter-generational equity, commodity price volatility, diversification away from resource dependence, environmental sustainability and shared prosperity. Nevertheless, how and where should resource revenues be invested in remains the source of a contentious debate. By shedding light on some of the contextual determinants (such as the level of resource abundance per capita, the urgency to diversify the economy based on current dependence on extractive exports, infrastructure deficits and public investment stock to date) that influence the trade-offs underlying policy decisions to manage resource revenues, this study moves away for a one size fits all solutions and contributes to outline a resource-based development model that is more adapted to the context of the different petroleum-dependent economies of the MENA region. This paper concludes that countries such as Algeria and Iran should pursue a resource revenue management model that differs from the one currently followed by countries such as the UAE, Kuwait and Qatar, which is more based on financial diversification rather than the transformation of the domestic productive structure.

Table of Content

1. Introduction
2. The context of resource revenue management in the MENA countries
3. What are the different options for managing resource revenues and their implications?
4. How have MENA countries managed their resource revenues? *Consumption and financialization at the expense of structural transformation.*
5. Policy implications: towards an adequate model of resource revenue management for MENA
6. Conclusion

1. Introduction

Since the 20th century, the political economy of development in the Middle East and North Africa has been marked by the discovery of large petroleum endowments. While such endowments in non-renewable natural resources have enabled to increase living standards and consumption in many countries in the MENA region, a majority of countries in the region remain highly dependent on commodities, and therefore highly vulnerable to commodity price fluctuations. The collapse in oil prices since 2014 revealed such economic vulnerability and has put diversification back as a policy priority in many petroleum exporting countries. However, few of these countries have successfully managed to diversify their economies.

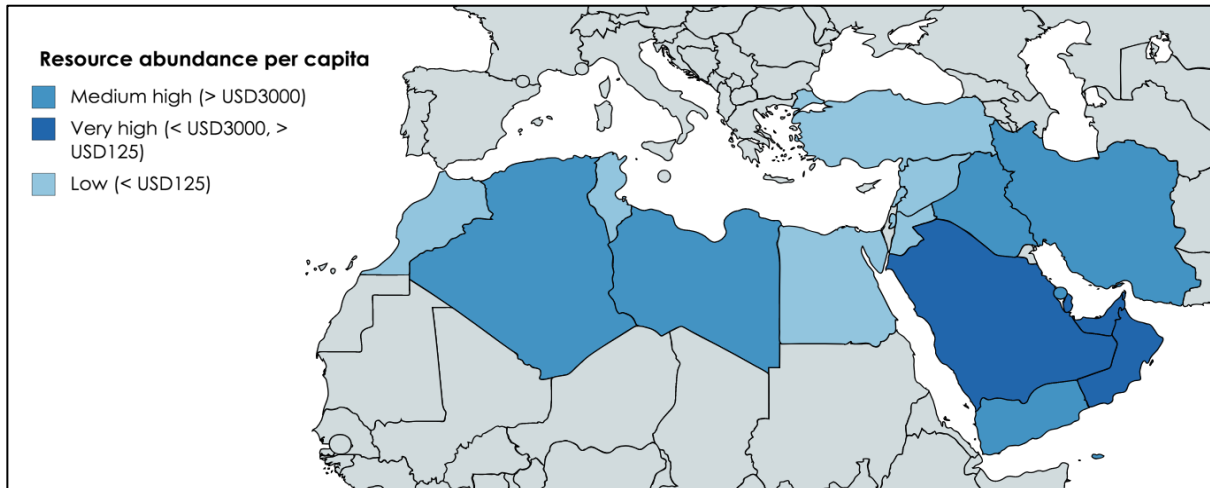
Given the high levels of resource rents in the region, one of the main development challenge in the region may therefore consists in using natural resource revenues as a lever to economic development. The management of revenues from exhaustible natural resources involves a number of interrelated challenges, such as inter-generational equity, commodity price volatility, diversification away from resource dependence, environmental sustainability and shared prosperity. Nevertheless, how and where should resource revenues be invested in remains the source of a contentious debate.

This paper has three objectives and analytical contributions. It aims to explain why the mainstream models of resource revenue management may not be suitable in the context of the MENA region. The Norwegian model of resource revenue management has been praised by a plethora of economists and political economists which have called for it to be applied in MENA countries (Beutel, 2019; Nore, 2019). However, this thesis advances that the standard policy advice on managing resource revenues, based on the permanent income hypothesis, is dominated by a short-term emphasis on consumption, fiscal stabilization and market equilibrium at the expense of long term structural change. As a result, such approaches have only addressed the symptoms of the resource curse (vulnerability to commodity price volatility) but not its root cause (productive dependence on commodities). Secondly, in order to reframe resource revenue management agenda towards achieving export diversification, this paper adopts a dynamic approach (across time, countries and institutional conditions) to the trade-off underlying resource revenue management by shedding light on several factors and policy actions that to influence the optimal allocation between domestic investment and savings in stabilization funds. Thirdly, this paper highlights key differences in the political economy of diversification within the MENA region, in order to explain why countries such as Algeria or Iran do not have the same needs in terms of resource revenue management models as countries such as Qatar, the UAE or Kuwait.

2. The context of MENA countries

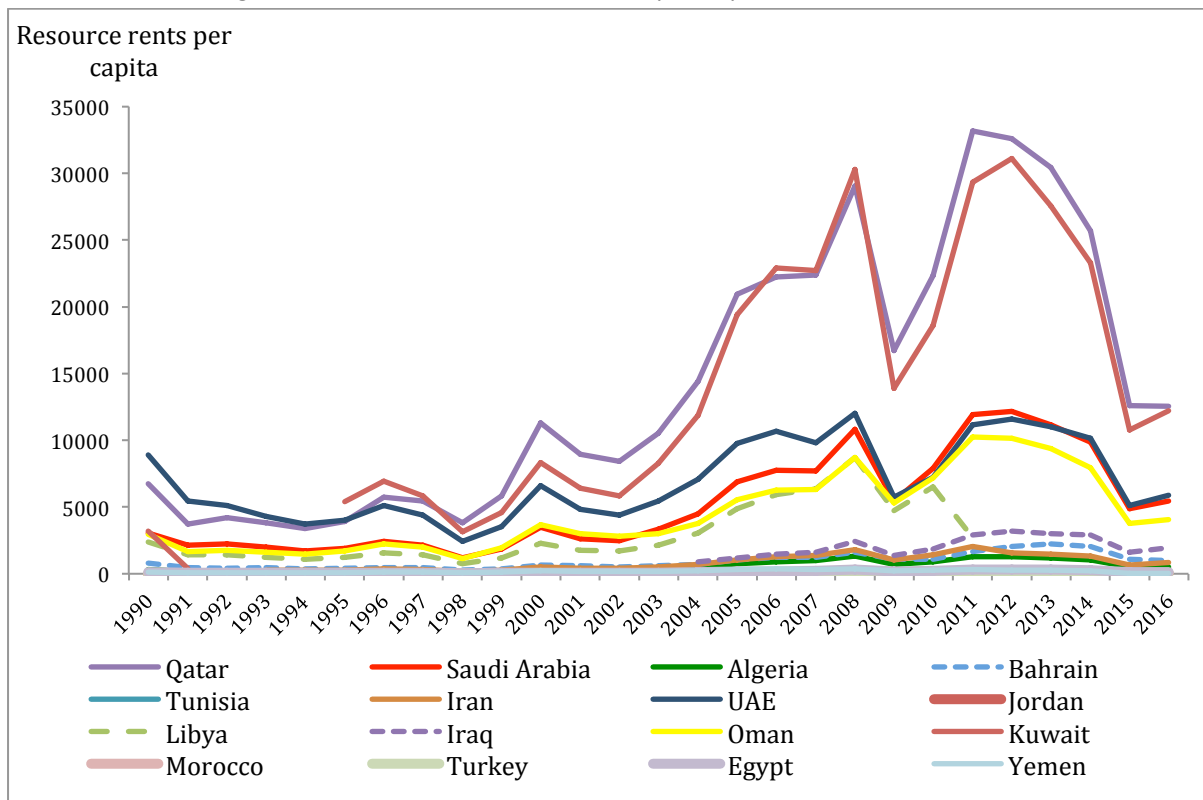
This section provides an outlook on the MENA region in terms of resource abundance, resource dependence, and industrialization. A first (albeit well-known) observation is that 11 out of 18 countries in the region can be considered as having resource rich economies. We can in fact identify three levels of resource abundance in the MENA region (see figure 1 and 2).

Figure 1: Resource abundance per capita in the MENA region



Source: Author's elaboration based on data provided in the World Development Indicators (2019).

Figure 2: Evolution of resource rents per capita in MENA countries

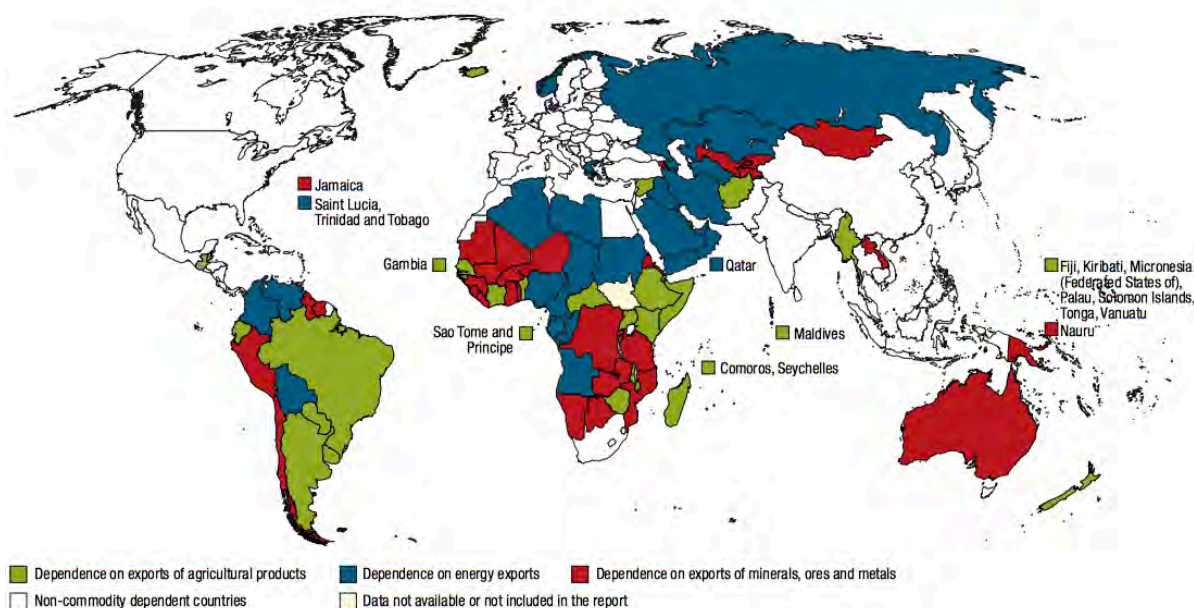


Source: Author, based on WDI data.

Another key observation relates to the fact that the MENA region features very high levels of resource dependence compared to the rest of the world. A staggering 34% of all energy dependent countries in the world are located in the MENA region (see figure 3).¹ In addition, almost two thirds of the countries in the Middle East and North Africa are commodity dependent, which ranks it the second most resource dependent region after Sub-Saharan Africa (see figure 4).

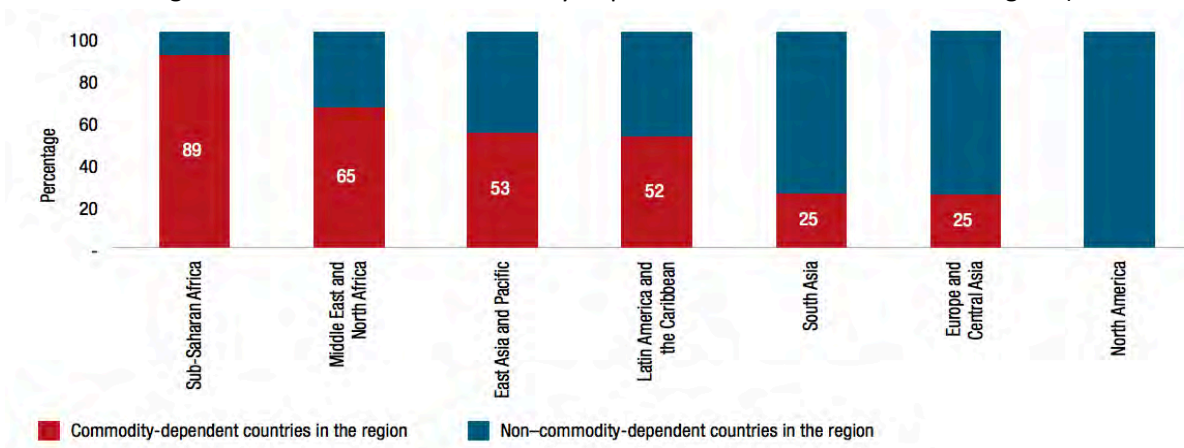
¹ UNCTAD (2019) considers a country to be export-commodity-dependent when more than 60% of its total merchandise exports are composed of commodities. Globally, 32 countries are energy dependent and 11 of those are in the MENA region.

Figure 3: Distribution of commodity-dependent and non-commodity-dependent countries within each commodity group, 2013–2017 (percentage and number of countries)



Source: UNCTAD (2019)

Figure 4. Distribution of commodity dependent countries within each region (2013-2017)



Source: UNCTAD (2019)

The high degrees of export concentration in the MENA region are mirrored by small degrees of industrial development. MENA's shares of manufactured exports in total merchandise exports are lower than any other region in the world (see figure 5). This can be explained by the fact the regional average is heavily influenced by the extremely low figures displayed by the resource rich MENA countries (around 10.4%, compared to 66,7% for resource poor countries such as Egypt, Morocco, Lebanon, Jordan, Turkey, etc). There is thus a clear contrast between the resource rich and resource poor countries of the MENA region in terms of share of manufacturing in total exports. However, to what extent does it matter? Why should policy makers in the MENA region be concerned regard low export diversification rates? The next section examines the different options for managing resource revenues and their implications for export diversification, before explain why resource rich in the MENA region face a differentiated sense of urgency to diversify their economies.

Figure 5: Manufactured exports in total merchandise exports by region in 2017 ²

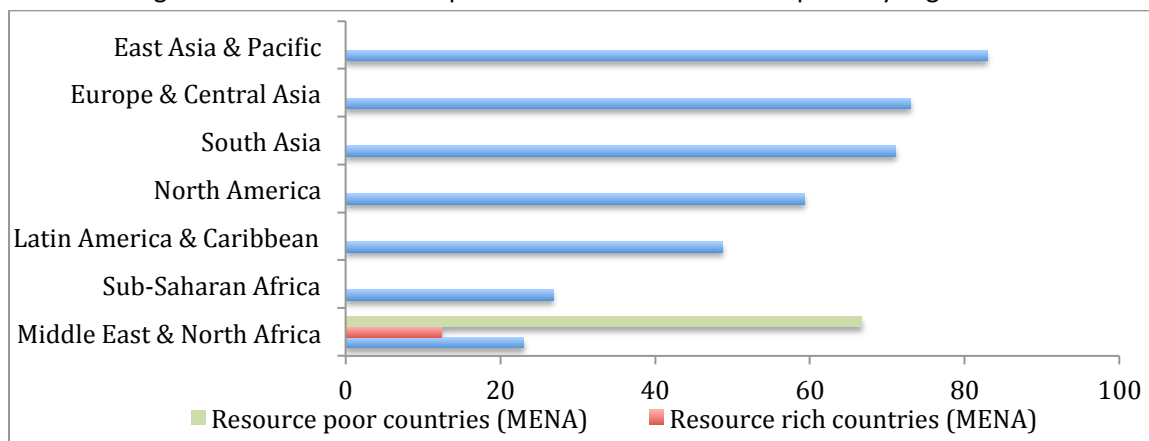
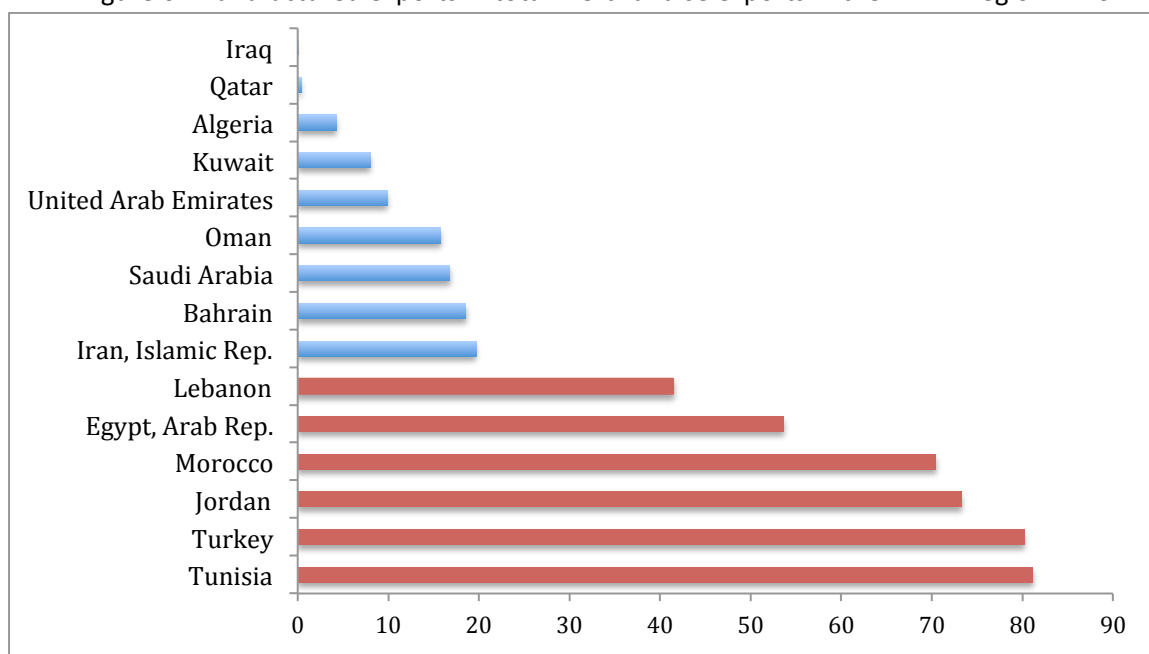


Figure 6: Manufactured exports in total merchandise exports in the MENA region in 2017



Source: World Development Indicators (2019).

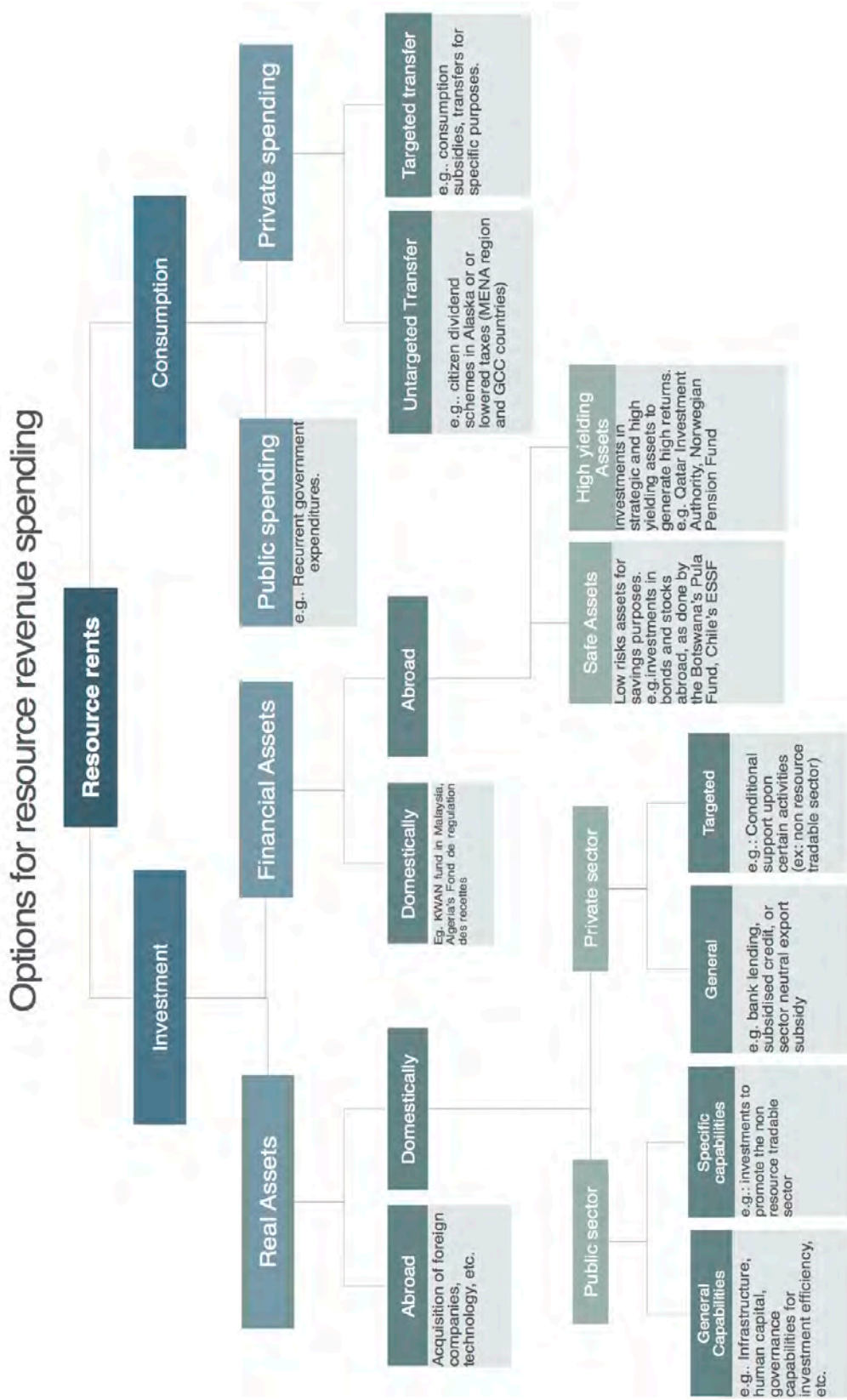
Note: For Qatar, Iraq and Bahrain, the data is for the year 2016 rather than 2017 due to data availability issues.

3. What are the different options for managing resource revenues and their implications?

The academic literature remains divided on several issues, such as whether resource revenues should be invested domestically or abroad (see Bauer, 2015; Gelb et al. 2014a; Van der Ploeg and Venables, 2018; Witter and Jakobsen, 2018), consumed or invested (See Bauer et al, 2012; Cherif and Hasanov, 2014; Hartwick, 1978), invested through a sovereign wealth fund, the general budget, or reserves at the central bank (see Gelb et al. 2014b; Mohaddes and Raissi, 2017; Van der Ploeg and Venables, 2018); earmarked or not (see OECD, 2016). Figure 7 maps out several layers of decisions for the government to allocate resource revenues.

² This graph includes 2016 figures for Qatar, Iraq and Bahrain due to the lack of data for 2017 for these countries. By omitting these countries, the share of manufactured exports for resource rich MENA countries goes up to 12%, which remains low compared to the rest of the world and resource poor MENA countries.

Figure 7: The main options for managing resource revenues



First, government needs to decide whether resource revenues are to be consumed or invested. Domestic consumption can be fuelled through public or private spending (through citizen dividends, subsidies or through the tax/benefits system). If invested, resource revenues can be transformed into real or financial assets (which can be used as savings for future generations or for fiscal stabilization purposes if invested in low risk securities, as done by Chile's government, Botswana's Pula fund or Norway's pension fund). If invested in real assets, resource revenues can be invested through the public sector or private sector (e.g. through subsidized credits, production or export subsidies, or lowering public debt).

Those differences have important implications in terms of economic development strategy. Collier et al (2010) rightly pointed out that these different alternatives have fundamental implications in terms of the actors (state, private sector, or citizens) that get the ultimate control of the macro level spending from these revenues and micro level spending detail, and the overall balance between consumption and investment.

What is the best option?

First, resource revenues represent an opportunity to alleviate the low investment rates that characterize developing economies, by relaxing financing and fiscal constraint. While high growth countries invest 5 to 7% of GDP per year (over and above expenditures on basic education) in incremental education and infrastructure, most countries with lower growth invest only around 3% (Collier et al., 2010). To date, even developing countries with natural resource rents have not had domestic investment rates commensurate with their increase of resources revenues (ibid.). The pattern of under-investment in the tangible and intangible assets, prominently in education, infrastructure, often leads to a stagnation of the domestic economy's productive structure, which further discourages private investments.

However, amongst the different options for managing resource revenues, the public spending of resource revenues for both consumption and investment in real assets has often been criticized due to government failures that can be classified into two broad categories. The first one relates to risks of public investment inefficiency due to *political* factors (elite capture, through corruption, cronyism and political motivations; reduced efforts to collect taxes, which may hinder accountability). The second category relates to risks of public investment inefficiency due to economic factors (lack of government capacity to invest, spending beyond the absorptive capacity and crowding out issues; fiscal instability due to commodity price volatility and currency appreciation). It is indeed often argued that resource revenues accruing to the domestic economy can exceed absorptive capacity or can be wasted in unproductive investments, which can also create a vicious cycle of under-investment, inflation and appreciation of the nominal exchange rate, which reduces the competitiveness of non-resource tradable sectors, further dampening incentives for investment in those sectors and making diversification more difficult (See Arezki, 2011; Gelb et al., 1988; World Bank, 2013).^{3 4}

³ The issue of capacity to invest is here distinct from risks of elite capture, based on the fact that elite capture stems from an intentional behavior that is politically or economically motivated, while government capacity to invest only reflect on the government's ability to conduct investments despite 'good' intentions.

⁴ Gelb et al. (1988) have evidenced that commodity booms are often followed by large public investment projects that have been characterized by inefficiencies and resource misallocation. Arezki and Brückner (2010) also found that commodity price booms lead to increased government spending, external debt, and default

As a result, several scholars have emphasized that, in contrast to public expenditure, parking financial assets overseas is not constrained by the absorptive capacity of the economy, which is why financial investments should be prioritized until investments can be used *efficiently* in the domestic economy (Hentsridge and Roe, 2018; van der Ploeg and Venables, 2018). The more radical conventional policy advice on managing revenues from non-renewable resources, based on the permanent income hypothesis (PIH), is that such revenues should be systematically saved overseas in order to avoid fiscal instability from overspending resource revenues, and that domestic spending of resource revenues on the long run would be financed by the returns on savings and investments overseas (e.g. Davis et al., 2003; Barnett and Ossowski, 2003; Bems and de Carvalho Filho, 2011).⁵ Bauer and Rietveld (2014) argue that SWFs should serve macroeconomic objectives instead of developmental ones, and should thus not be allowed to spend domestically. As Bauer (2015) further notes, governments whose funds cannot invest domestically (as in Abu Dhabi, Botswana, Chile, Ghana, Kazakhstan, Norway) generally achieve their returns objectives while countries where funds can invest or spend at home (such as Angola, Azerbaijan, Equatorial Guinea, Kuwait, Nigeria and Russia, often become conduits for corruption, patronage and financial mismanagement. Resource rich countries have often placed their resource revenues in SWFs that have invested in external assets, especially securities traded in major markets to respond to sterilization, stabilization, and risk/return objectives. A study conducted by Truman (2011) has shown that overseas holdings constitute 84% of total investments in a sample of 60 SWFs.⁶⁷

Others scholars have argued that resource revenues should be distributed directly to citizens (e.g.

risk in autocracies, but do not have the same effects in democracies. It is often considered that resource rich countries overspend when commodity prices and revenues are high, and cut back spending when commodity prices decline. Such spending behaviour affects the quality of public spending and generates macroeconomic volatility, which is detrimental to private investment, consumption and consequently economic growth (Bond and Fajgenbaum, 2014). Arezki (2011) consequently points out that poor long-run economic performance in commodity-exporting countries may stem from inefficiencies in government investments rather than from underinvestment. Collier et al (2010:85) also argue that large increases in investment may encounter both managerial and physical bottlenecks that depress marginal returns, especially in the construction and other non-traded sectors of the economy, leading to wasteful investments. Those arguments point out to the fact that governments that lack the capacity to invest are also likely to invest beyond an economy's absorptive capacity, leading to further wasteful investments, inflation and Dutch disease symptoms, in addition to potentially crowding-out private investments.

⁵ The PIH was developed by Friedman (1957) and describes how agents spread consumption by supposing that consumption is determined not the current income but also by the expected income in the future. The PIH can be calculated using the following formula, with M referring to the annual extractive income received, y as the number of years of investments, r as the real rate of return on investments and X as the real income received (World Bank 2013):

$$X = M \left[1 - \frac{1}{(1+r)^y} \right]$$

⁶ More recently, several resource-rich developing countries have started to establish SWFs that are mandated to invest domestically (Monk 2013; Gelb, Tordo and Halland, 2014a).

⁷ A further consideration where should any financial savings be placed, in the Central Bank or through the creation of a SWF? Henstridge and Roe (2018) argue that saving through an SWF requires initial and ongoing investment, (including set-up costs and the ongoing administrative costs) which are only justified if the revenues from natural resources themselves are both large and likely to be sustained over many years, as in Norway, in contrast to LICs such as Tanzania and Mozambique would be unlikely to build capital superior to the fixed costs of establishing and then operating a fund. In such situations, saving via the central bank may be preferable.

Devarajan, 2019). The direct distribution to citizens through cash transfers, subsidies or tax breaks) would improve accountability (by encouraging citizens to monitor oil income and forcing government to rely on normal taxation for revenues) as well as widen the opportunity for citizens to invest in human capital to complement resource wealth, rather than concentrating access to capital within a small elite (Gelb and Grasmann, 2009; Devarajan, 2019). In the most direct cases of redistribution to citizens (excluding indirect transfer through social housing) the government retains neither macroeconomic nor microeconomic control over spending.

Few states, such as Alaska, have implemented citizen dividend schemes, but few other developing exporters followed this path. Instead, many oil exporters for instance distribute rents to citizens indirectly through lower taxes and consumption subsidies, in particular fuel subsidies, or mechanisms of social housing distribution (as in Algeria), or even grants to newlyweds (as in several Middle Eastern countries).⁸ Crivelli and Gupta (2014) have indeed evidenced a substitution between natural resources and domestic (non-resource) tax revenue, with around 30 cents in non-resource tax revenue being lost with each additional dollar in resource revenue.

However, public investment of resource revenues should not be dismissed so quickly. First of all, there are severe limitations to the 'alternative' ways to manage resource revenues mentioned above. Indeed, having resource revenues in financial assets can lead to very high opportunity costs for capital scarce developing countries that need to diversify their economies. While there is a need to cushion to impact of resource revenue volatility, this should not be at the expense of allowing the domestic economy to benefit from commodity booms (Collier et al. 2010). Fiscal stabilization through resource revenue investments in financial assets overseas thus bears a very high opportunity cost because funds would not be made available for domestic investment, thereby ignoring the developmental needs of certain countries.) The conventional PIH advice may be attractive when resource revenues are expected to be exhausted within 10 to 20 years, the PIH but bears very high opportunity costs on the long run, which is why it has been increasingly criticized in recent years (e.g. Araujo et al., 2012; Berg et al. 2012; Collier et al, 2010; International Monetary Fund, 2012; Sachs, 2007; Takizawa et al., 2004; UNCTAD 2006a; van der Ploeg and Venables, 2008, 2011; van der Ploeg, 2010; Venables, 2010). Indeed, while it makes sense for a country such as Norway to save and invest its revenues abroad since they already have considerably high levels of infrastructure and educated labour force, resource rich developing countries such as Algeria, Angola or Nigeria could generate a lot of growth by investing domestically.⁹

⁸ Gelb and Grasmann (2009) rightly argue that the fiscal costs of holding down domestic prices of petroleum derivatives and natural gas to well-below world market levels can be considerable, and stems from policies that inefficient and difficult to reverse. According to IMF staff estimates, gasoline subsidies in Algeria represented 14 % of GDP in 2015, which is almost as large as the fiscal deficit itself and twice the combined budgets of the health and education ministries (Jewell, 2016). Such subsidies the rich more than the poor, given that the richest 20% consume six times as much fuel as the poorest 20 % (ibid.)

⁹ In Norway, all government income from the petroleum sector is channelled into the Government Pension Fund and the amount paid out from the fund is a yearly decision by Parliament (Torvik, 2011). The objective is that payments out of the fund shall equal the real return of the fund, which is expected to be 4% on an annual basis, although this is not a binding rule. Interesting, even in Norway (where the opportunity cost of investing abroad is arguably lower than most developing countries) some politicians still argue that there are high opportunity costs and that Norway should use more of the fund for domestic spending (ibid.) In Alaska, the payments out of the fund are decided by the constitution, according to which 21% of the net return for the last five years can be spent (given that this amount does not exceed the sum of net income of the fund the last

Even in the case of direct redistribution to citizens, several issues should be raised. There are fundamental issues related to the investment behaviour of private individuals. On the one hand, according to Collier et al (2010:22), citizen dividends enable to transfer the absorption problem and microeconomic detail of spending to private individuals, which are much better at identifying investment projects than government officials, and have sharper incentives to implement them well and make sure they succeed. Devarajan (2019) further justifies the direct distribution to citizens by arguing that the mismanagement of oil revenues relates to the public expenditure on consumption through inefficient subsidies and public-sector wages, over capital.

On the other hand, at least four counterarguments can be provided. Firstly, there is no guarantee that the choices of individuals will lead to an optimal macroeconomic profile of consumption versus investment rates. As Arezki (2011) best explained, direct redistribution may fuel increased consumption as opposed to investment, which may infringe on the Hartwick rule.¹⁰ In addition, the effect of commodity price volatility would mean that if the money is used for consumption, the increase in consumption is unsustainable and should be reversed as soon as possible before it becomes entrenched into habits, especially since volatility in consumption is challenging to deal with (Collier et al, 2010).

Secondly, redistribution to private citizens may also not lead to an optimal macroeconomic effect of investment. Dividing resource revenues through citizens would lead to investments that are too small in scale to have transformative effects at the macroeconomic level, and consequently would not contribute to export diversification.¹¹ Indeed, in contexts of urgent diversification needs, it is not guaranteed that redistribution to private sector will lead to revenue mobilization in the non-resource sector, as opposed to the resource sector. Markets alone have often meant that investments would remain confined to resource sectors that are considered to be areas of comparative advantage. In the meantime, the process of diversification with the emergence of new industries involves a process of learning by doing, R&D, and risk that private individuals may not be able to afford alone with sole dividends from resource revenues (as shown in chapters 8 and 9). The need for the government to retain macroeconomic control thus stems from the “non-automatic” nature of the process of economic diversification.

A third issue has to do with the intergenerational distribution of the benefits, especially if the generation of private individuals that benefit from a resource boom use their dividends to boost consumption instead of investing. The consequence of such spending behavior would be that current generation benefit from resource revenues at the expense of future generations. In contrast, domestic investments can lead to long-term benefits that will put consumption paths on a gradual

year and what is left on the earnings Reserve account) (ibid.). Lump sum transfer to citizens of the State often constitute half of what is spent domestically, and still represented USD 1281 for each individual in 2010 for instance (ibid.) It is obvious that most developing resource rich countries that are less resource rich in capita terms than Canada would not benefit in the same extent from a similarly conservative rule.

¹⁰ “Individuals may underinvest the proceeds of resource revenues in, say, education and health, as they may not internalize the social benefits of those investments. One possibility would be to redistribute not necessarily directly, in the form of cash transfers, but rather in the form of greater information and enhanced transparency concerning the management of revenues and on the rationale behind the choice of the level and composition of spending. Citizens must take part in the major debates addressing public action. That will make it possible to improve the efficiency of government spending, which will benefit the citizenry.” (Arezki, 2011).

¹¹ Similar criticisms can be applied to microfinance (see Bateman and Chang, 2012)

increase. Indeed, in contrast to the PIH, the Hartwick rule and the Feldman-Mahalonobis model shed light on the trade-off between immediate and future consumption. Hartwick (1978) argued that an optimal constant level of consumption can be sustained if the value of (net) investment equals the value of rents from extracted resources at each point in time. Governments should consequently convert resource revenues towards other forms of assets that are capable of generating as much income as the natural capital that is being replaced (ibid). According to the World Bank (2011b), few resource-rich countries (such as Malaysia) have followed the Hartwick Rule over the last 35 years, because resource rents tend to be used to finance consumption rather than investment.¹² As a result, while direct or indirect redistribution to citizens may lead to immediate consumption at the expense of future generations, one could argue that raising long-run consumption is more sustainable through immediate domestic investments, which generate growth that benefits all generations (Collier et al. 2010). According to an analogy with a firm made in a World Bank report (2013:35) “using natural resource revenues to finance consumption is akin to a firm financing dividend payouts by liquidating its assets: both increase present income at the expense of future income”. In addition, using resource revenues to finance an immediate increase in consumption can be problematic due to the volatility of resource revenue. Cutting back on consumption is politically undesirable, as individuals get used to higher consumption patterns, which makes it more challenging to cut back spending.

A fourth counter-argument is that taxation has positive outcomes on state accountability and should not be eliminated. While Collier et al. (2010) noted that an advantage of redistribution to citizens is that, in countries with bad governance, it is important to get funds out of the reach of government as rapidly as possible, it is worth noting that the lack of taxation is likely to erode the basis of the social contract between people and the state.¹³ Indeed, a negative system of taxation will likely preempt greater societal demands for accountability and scrutiny over government spending, further allowing for bad governance (Cammett et. al, 2015; Eubank, 2012; Moore and Rakner, 2002). Recent literature has emphasized the importance of taxation for state building through its impact on the emergence of grassroots taxpayer associations that could monitor the efficiency of government spending (Brautigam, Fjeldstad, and Moore, 2008).

In light of the limitations of the alternatives to the domestic investment of resource revenues, we turn towards a holistic approach to managing resource revenues. Such outlook is holistic because it puts forward the interrelation between different resource revenue management options and objectives. Ultimately, decisions on how to spend resource revenues depend on which objectives are to be pursued, which are inherently political. However, a holistic approach to resource revenue management sheds light on the interrelation between different objectives of resource revenue management (such as intergenerational equity, fiscal stabilization, economic diversification, or

¹² In many instances, the outcomes that would have been achieved through the Hartwick rule are very different than actual outcomes. For instance, Nigeria could have had a stock of produced capital four times higher than the actual stock, and Gabon could have had a stock of produced capital of USD68,000 per person, compared to USD58,000 in oil-poor South Korea (ibid.). The study included net foreign assets but did not include investments in human capital given “the lack of an accepted production function converting education spending into human capital” and given that that educational expenditures have not been significant compared to physical capital investment (Hamilton et al., 2006; World Bank, 2013).

¹³ Collier et al (2010) also point out that this argument is of doubtful relevance because the countries with the worst governance are unlikely to implement such a scheme.

private consumption), which are not mutually exclusive.

For instance, the World Economic Forum (2018:20) recently identified a list of uses of resource revenues for maximizing welfare “in order of priority where each subsequent use should *not* be pursued until its predecessor has been successfully institutionalized”. In such list, economic diversification came third, preceded by the accumulation of precautionary buffers to protect against commodity price volatility, and the smoothing of consumption across generations by investing revenues in long-term assets. However, we can go a step further by arguing that economic diversification is crucial for the long-term achievement of fiscal stabilization and smoothing consumption over time. As a result economic diversification should be embedded in resource revenue management strategies in resource-dependent economies rather than being considered as independent from - and subsequent to - fiscal stabilization strategies.

While neoclassical models (mostly based on the permanent income hypothesis) somehow question the ability of governments to conduct productive investments and is mostly concerned with ‘consumption’, other approaches (such as the Hartwick rule and the Feldman-Mahalonobis model), that are more in line with Keynesian and neo-Marxian perspectives, suggest that revenues generated by exhaustible resources should be reinvested into the production of capital goods in order to reach a high standard in consumption but also to accumulate productive capabilities (that are capable of generating income after natural resources are depleted).

Structuralist (and particularly Prebischian) insights also reveal that the diversification of a country’s productive structure is the most sustainable way to reduce a country’s vulnerability to commodity prices fluctuations (and thus the best way to achieve macroeconomic stability). Although financial investments can help achieving fiscal stabilization purposes, they are unlikely to enhance the productive capabilities of the national economy because they will have no direct impact on the domestic private sector, especially if they are not linked towards the acquisition of strategic assets that are related to domestic capabilities (Chang, 2007b). In contrast, diversification requires the active use of resource rents to increase the productivity of other exportable sectors to reduce their production costs, whether by funding infrastructure, subsidies or other methods (Cherif and Hasanov, 2014; Gelb and Grassman, 2009). This is well reflected by the Malaysian experience. For instance, Malaysia’s public investments led to a large short-term fiscal deficit but had long-run transformative effects on the domestic economy (Di John, 2009). As a consequence, saving in international capital markets or direct redistribution to citizens are only a superficially attractive option because public investments for industrial development or government lending to the private sector offer more insurance that resource revenues would be used for stimulating economic diversification. Recent macroeconomic studies also support the argument that domestic investment of resource revenues holds the potential to promote economic growth and economic diversification (Berg et al. 2012; Collier et al. 2009; van der Ploeg and Venables 2010; Isaksson, 2009).¹⁴

¹⁴ Gelb et al. (1988) found a negative correlation between domestic investment of resource revenues and economic growth. The difference in results can be explained by the fact that what matters is not just the size of public investment but also its design, scope and implementation.

4. How have MENA managed their resource revenues? Consumption and financialization at the expense of structural transformation.

Generally speaking, MENA countries have tended to spend their resource revenues generated by the last commodity boom by fueling domestic consumption, both at the public sector and private level, rather than for investment to increase the productivity of non-resource tradable sectors. Hydrocarbon revenues in the GCC have been used to support citizens from cradle to grave, by providing including free education and healthcare, highly subsidized utility prices, land, and cheap financing for housing construction, low taxes as well as employment in the public sector for nationals (Malik and Nagesh, 2019).¹⁵ For instance, resource rich countries of MENA tend to have larger military spending (Ali and Abdellatif, 2013) and energy subsidies (Fattouh and El Katiri, 2013) than the rest of the world.¹⁶ While energy subsidies that keep domestic energy prices below market prices serve as a strategic tool to promote industrialization and increase the income of citizens, Fattouh and El Katiri (2013) argued that they do so in a costly and highly inefficient way in the Middle East and North Africa. Shehabi (2019:7) described such practices as the essence of being a rentier state: “the redistribution takes place very unequally, but almost all earners directly or indirectly benefit from it and do not contribute to government revenue”.

Another key feature of the resource revenue management in the highly resource-rich per capita countries of the MENA region has been the high levels of accumulation of financial assets overseas. The UAE, Kuwait, and Qatar in particular have accumulated very large SWFs. Such concentration of resource revenues abroad in SWF has been a key factor constraining the ability of GCC governments to reduce overdependence on hydrocarbons revenues (Shehabi, 2019).¹⁷

In the context of the discussion in section 3, it appears that the poor diversification outcomes of the MENA region can thus be explained by the non-developmental use of resource revenues. However, a key question remains and must be asked. Why not invest resource revenues in financial assets for fiscal stabilization or intergenerational equity rather than in domestic assets for export diversification objectives? Why should not MENA countries follow the example of Norway who has successfully invested its revenues in financial assets and accumulated a large SWF?

The argument provided in Lebdioui (2019) revolves around the degree of per capita resource wealth: while very resource rich per capita countries (defined as the 10th decile in terms of extractives rents per capita, henceforth VRR) seem to be able to develop despite natural resource dependence, there seems to be a strong correlation between economic growth and export diversification for medium resource rich per capita countries (which rank in the 8th and 9th deciles according to extractives rents per capita – henceforth MRR). This hypothesis implies that VRR countries can more easily sustain growth without necessarily undergoing a transformation of their economy while diversification is a key factor of economic development for MRR countries, which should consequently follow a pattern of resource rents management that focuses more on domestic investment for diversification than

¹⁵ However, it is worth noting that this support varies across the region and has undergone changes as oil prices fall and domestic populations increase (Malik and Nagesh, 2019).

¹⁶ Ali and Abdellatif (2013) found that an increase in natural resource revenues lead to increases in military spending in the Middle East and North Africa (MENA) countries from 1987 to 2012.

¹⁷ Kuwait has two SWFs managed by the Kuwait Investment Authority (KIA), which aims to ensure macro-stabilization and fiscal rebalancing. Such investments in the KIA are deliberate policy choices to offer a diversified alternative revenue source to sectoral diversification in the economy (Shehabi, 2019).

VRR countries. This theory is confirmed with statistical evidence showing the heterogeneous effect of export diversification on growth rates and employment rates across categories of resource-rich countries, which are classified according to their level of resource rents per capita.

Does this phenomena hold for the MENA region in isolation? Table 1 presents key statistics for the MENA region, while figures 8, 9 and 10 explore the correlation between export diversification, GDP growth, and unemployment, across different types of MENA countries. VRR countries are represented across all three figures in red, while MRR countries are represented in blue, while RP (resource-poor) countries are represented in green.

Figure 8 shows the correlation between the average GDP growth and export diversification rate in MENA countries between 1990 and 2010. It reveals three main observations. First, resource-poor countries tend to be (unsurprisingly) more diversified than resource-rich countries in the MENA region. Second, and more interestingly, there are divergent correlations between diversification and growth across MRR and VRR countries in the region. While export diversification and growth does not appear to be correlated for VRR countries, it appears that the less diversified MRR countries, the more likely they are to achieve a lower growth rate. Figure 9 shows that this trend is further accentuated in times of low commodity prices (from 1990 to 2000).

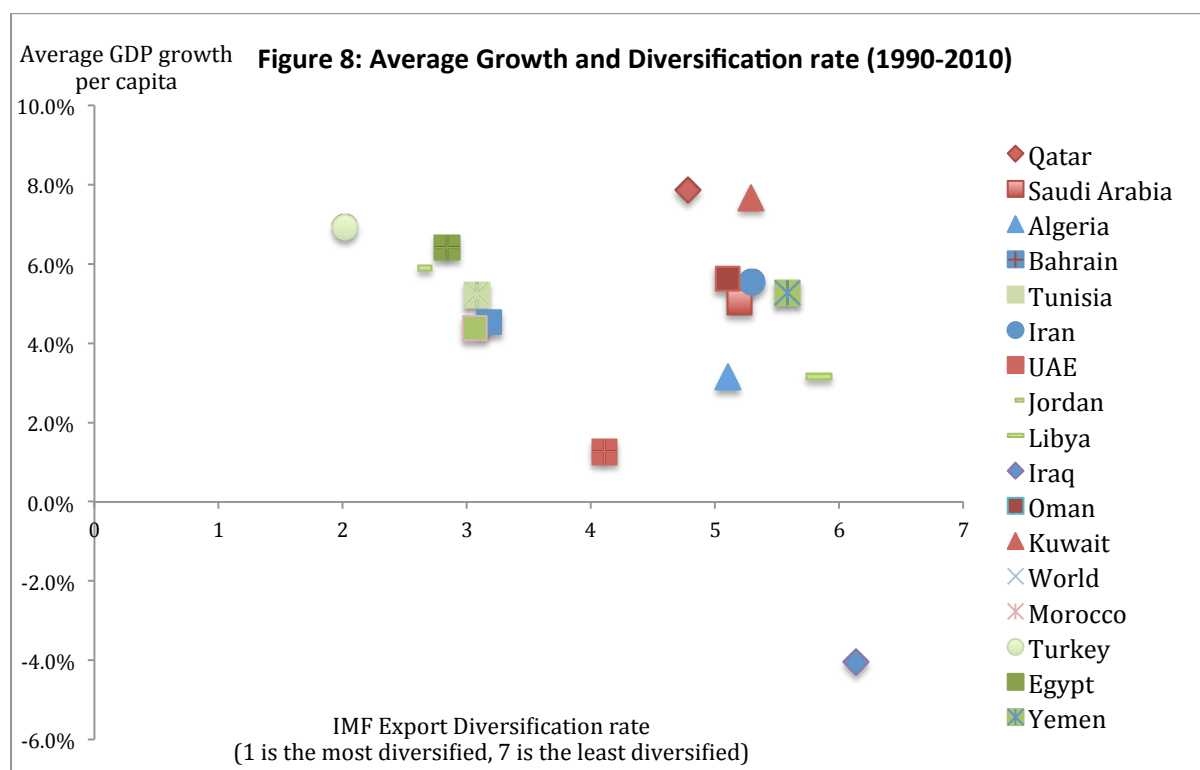
Figure 10 examines the correlation between export diversification and unemployment across MENA countries. The results are even clearer than the correlation with GDP growth and the three groups of countries (VRR, MRR and VRR) are distinctly separated in the graph. VRR countries display low unemployment rates regardless of their diversification rates, while in MRR countries, low unemployment appear to be correlated with higher diversification rates.

Table 1: Selected Statistics for the MENA region, average for the 1990-2010 period

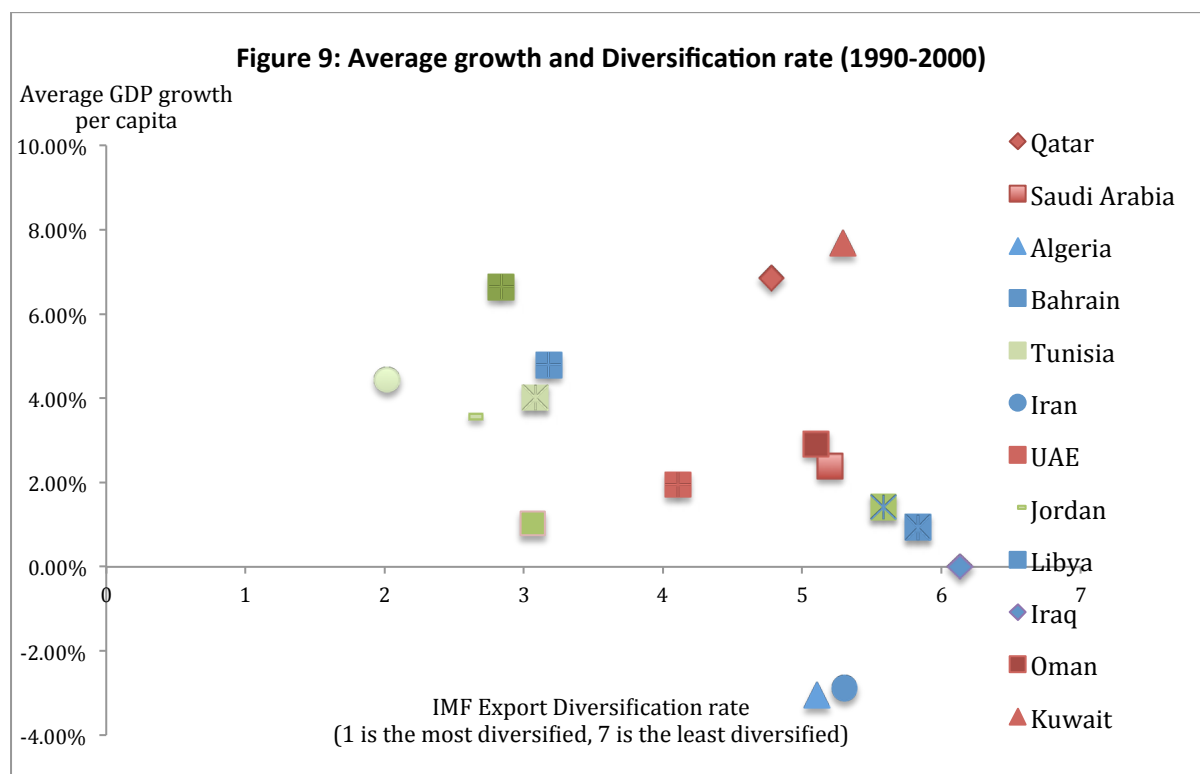
| Country | Category | Resource rents per capita | IMF export diversification rate (1 is the most diversified) | Unemployment rate | GDP growth per capita |
|----------------------|----------|---------------------------|---|-------------------|-----------------------|
| Qatar | VRR | 11146.4 | 4.8 | 2.7 | 7.87% |
| Kuwait | VRR | 10029.7 | 5.3 | 1.2 | 7.67% |
| United Arab Emirates | VRR | 6227.3 | 4.1 | 2.6 | 1.26% |
| Saudi Arabia | VRR | 3956.6 | 5.2 | 5.5 | 5.04% |
| Oman | VRR | 3531.3 | 5.1 | 4.1 | 5.63% |
| Libya | MRR | 2909.8 | 5.8 | 19.5 | 3.15% |
| Iraq | MRR | 1221.2 | 6.1 | 8.9 | -4.05% |
| Bahrain | MRR | 708.4 | 3.2 | 1.3 | 4.54% |
| Iran | MRR | 638.8 | 5.3 | 11.3 | 5.54% |
| Algeria | MRR | 411.5 | 5.1 | 22.5 | 3.16% |
| Yemen | MRR | 178.8 | 5.6 | 12.5 | 5.27% |
| <i>World</i> | | <i>125.1</i> | | <i>5.9</i> | <i>4.09%</i> |
| Egypt. | RP | 112.3 | 2.8 | 9.7 | 6.41% |
| Tunisia | RP | 104.9 | 3.1 | 15.0 | 5.23% |
| Sudan | RP | 78.9 | 4.7 | 13.4 | 5.79% |
| Morocco | RP | 21.8 | 3.1 | 14.0 | 4.38% |

| | | | | | |
|---------|----|------|-----|------|--------|
| Jordan | RP | 19.1 | 2.6 | 15.0 | 5.90% |
| Turkey | RP | 10.2 | 2.0 | 8.7 | 6.93% |
| Lebanon | RP | 0.0 | 2.3 | 8.3 | 11.25% |

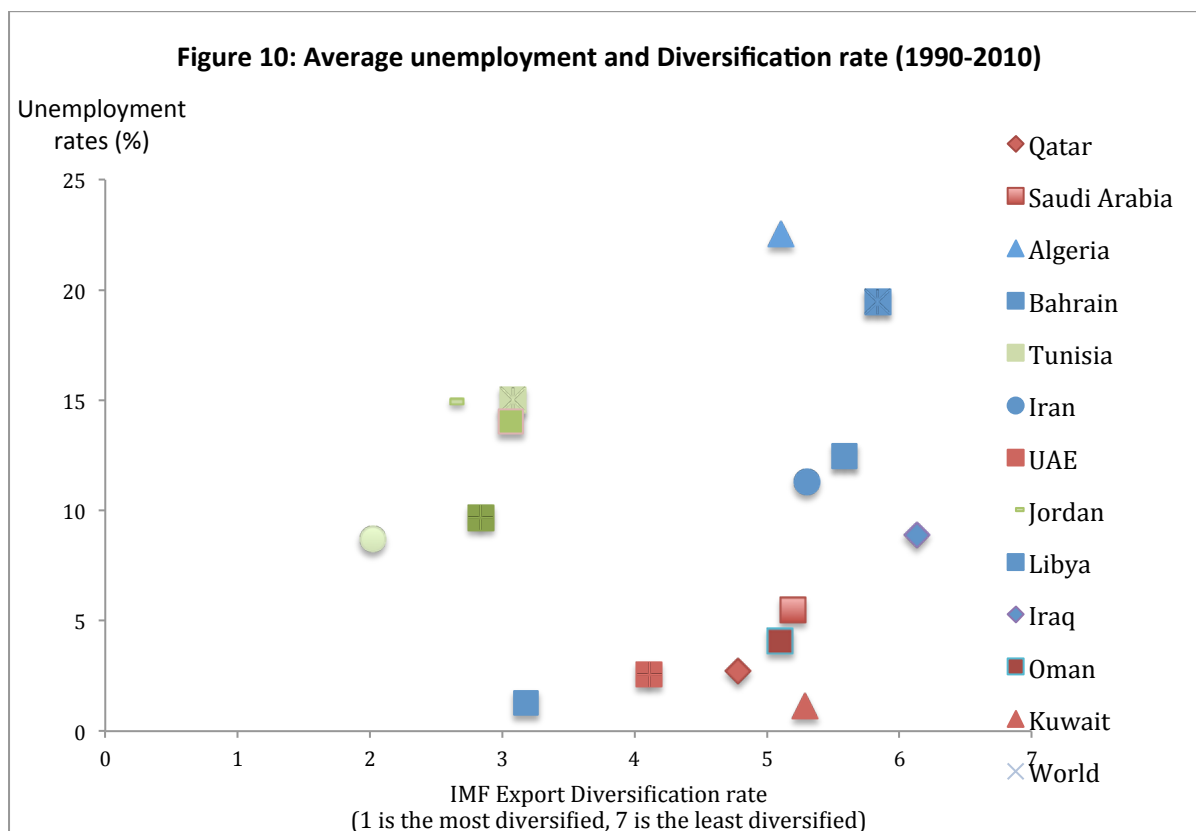
Source: WDI (2019) and IMF (2018)



Source: Author's elaboration based on data provided in WDI (2019) and IMF (2018)



Source: Author's elaboration based on data provided in WDI (2019) and IMF (2018)



Source: Author's elaboration based on data provided in WDI (2019) and IMF (2018)

These results are explained by the fact that the degree of resource wealth per capita influences both political factors (such as pressure for rents distribution, consent and governance) and economic factors (such as employment generation in the context of the low labour intensity of extractive industries). Indeed, one of the main political economy differences between VRR and MRR countries concerns the compromise between social redistribution and long-term growth. Unsurprisingly, higher levels of resource rents per capita provide the state with enough financial resources for a broad social redistribution among citizens without compromising or cutting back the investments needed to promote economic growth. In contrast, in resource rich countries with a lower per capita resource wealth, there is a clear threat of economic stagnation caused by excessively redistributive policies, as well as a threat of economic disparity amongst the population if growth is encouraged at the expense of social spending. Such countries need to find a compromise between their social commitments and their public investment budget to encourage growth, which is possible but requires much more efficient economic management than in VRR countries.

In a similar perspective, Cammett et al. (2015) noticed that in the MENA region, countries displaying very high oil abundance per capita tend to have higher political governance records than those with medium resource rich per capita countries. They explain this divergence in terms of the sets of incentives facing rulers in high and low population oil-rich countries and the ways in which resources shape or consolidate political settlements. They further explain that regimes featuring high oil earnings per capita (such as the Gulf states) tend to prefer relying more on the distribution of rents to buy consent and social peace in order to secure their power and prevent greater societal

demands for accountability, which is less risky than repression.¹⁸ Meanwhile, MRR countries face a more challenging situation because even though they have large resource endowments, resource rents may not suffice to buy their populations' support. Cammett et al (2015) argue that such resource rich countries tend to employ more repression. This logic relates to what North, Wallis and Weingast (2009) call a "limited order arrangement": when resources are plentiful, ruling coalitions can afford to be broader and thus more stable. In contrast, when resources are more constrained, ruling coalitions tend to be narrower because it is fiscally impossible to buy the consent of a large portion of the population. Resource rich countries with large populations consequently tend to display a selective allocation of rents and thus of economic opportunities, less developed private sectors and big coercive apparatuses repression, which is why they are thought to suffer from the resource curse (Cammett, et al., 2015).

Another central issue for policy-makers in medium resource rich countries of the MENA region and elsewhere is how to maximize the socio-economic benefits of resource rents while dealing with high social expectations in a context where excessive social redistribution are likely to lead to economic collapse. Here, employment creation is of central importance. VRR countries can afford to transfer rents to their populations without the need to generate employment (through the private sector in particular). Instead, these countries, especially Saudi Arabia, which has a relatively large population size, can rely on the public sector to generate excess employment (thereby transferring rents). The Saudi labour market has been characterized by a dependence on the public sector (e.g. public administration and defense, health and education), where average wages for Saudi nationals is far larger than in private employment in other sectors (see McKinsey, 2016). MRR countries usually cannot afford similar strategies and are more likely to need to generate employment by diversifying their economy, especially given the low labour intensity of extractive activities, which is evidenced in the following figure 11.

Figure 11: Share of Oil in GDP and employment in extractive industries in total employment in Arab oil exporters



Source: IMF (2016)

¹⁸ Their governance system is based on patronage and negative taxation system in which oil rents are distributed through social services, subsidies, housing, energy, water, and a private sector consisting of families associated with the rulers which benefit from state contracts (ibid). Nevertheless, Cammett et al (2015) also point out that buying consent is not just about a distribution of rents but also long term and sustainable access to economic opportunities and facilitation to profit making opportunities to the population and granting more political rights.

Those dynamics of rents distribution and employment generation have obvious economic implications.¹⁹ It can be argued that VRR countries face less pressure than MRR countries to industrialize through labour-intensive manufacturing activities, and instead are more likely to invest in financial assets and services. This argument is confirmed by figures 5 and 6, which show that the highest per capita oil income countries feature very low shares of manufacturing exports.²⁰ Those findings echo the finding in Sachs and Warner (1995:19) that “for the most highly resource endowed economies [...] the natural resource base is so vast that there is no strong pressure to develop an extensive industrial sector”.

As a result, as Gelb (2010:19) writes: “although there is evidence that diversifying economies can expect to do better over the long run, the urgency of the issue will vary across countries. By explaining that resource abundance per capita is an additional factor that influences the suitability of diversification strategies pursued by resource-rich countries, this paper shows that MENA economies face a differentiated sense of urgency and risk-taking for structural transformation at the expense of financial diversification. VRR economies such as Qatar, Kuwait, Brunei, Saudi Arabia can afford growth rates, social distribution and high per capita income without a productive transformation of their economy. In addition, the UAE, Kuwait, and Qatar have accumulated sufficiently large sovereign funds that they generate revenues large enough that might substitute for hydrocarbon rents if and when the latter drop (Luciani, 2019). However, such circumstances are “particular” and cannot be replicated by most other countries. MRR countries such as Algeria, Iran and Iraq can reap more benefits from diversifying their productive structures as swiftly as possible. Such differences influence the trade offs underlying resource revenue management decisions, especially in terms of the difference in opportunity costs of investing resource revenues in financial assets.

However, one could argue that even VRR countries, and Saudi Arabia in particular, can reap large benefits from economic diversification. Cherif and Hasanov (2019) argue that all resource-dependent countries need to diversify their productive structures in order to develop, and even show that VRR countries such as Kuwait and Saudi Arabia, which got rich with oil discoveries, have lost their relative income ranking over time. As further argued by Malik and Nagesh (2019), while high foreign exchange reserves in GCC countries also provide an additional source of government revenue that can be used during times of lower oil prices, this does not mean that these economies should not look to diversify. “Rather, it highlights that their fiscal strength results in less pressure on the economy during times of low prices and reform” (ibid.30). In Saudi Arabia, the policy of creating artificial employment in the public sector has proved costly for the government, especially in times of low commodity prices. Economic diversification, and the creation of demand for labour outside the capital intensive extractive sectors, can represent an opportunity to sustain low unemployment rates and generate foreign exchange that is not dependent on commodity price fluctuations.

¹⁹ Economic diversification contributes to expand job opportunities for the segments of labour force that are not employed in extractive sectors and consequently may also bears societal effects in terms of inequality. Statistical analyses could not be conducted in the context of the MENA region because of the lack of data available.

²⁰ This includes countries like Qatar, Norway, Kuwait, the UAE and Australia, which are usually considered high-income economies. However, it can be argued that the economies of Qatar, Kuwait and UAE are not necessarily advanced because they have lower levels of industrial and agricultural development than other high-income countries (Khan, 2007).

Another key consideration comes from the context of energy transition and expected reduced demand for oil, which increase the need for diversification all petroleum-dependent countries. As Fattouh and Sen (2019:25) note: “If the transition in Arab countries does not go smoothly and they fail in their diversification efforts, this could result in lower investment in the oil sector, output disruptions, and more volatile oil prices. Also, in the absence of diversification, oil exporters will continue to push for higher oil prices. These have the effect of speeding up the global energy transition”. Petroleum exporters should consequently aim to diversify their economies in anticipation of the reduced demands for fossil fuels, regardless of their resource abundance per capita and levels of accumulation of foreign reserves and financial assets overseas.

Now that we have justified the need for export diversification across MENA’s resource rich economies, another question remains: What is the most effective way for MENA governments to achieve such objectives while avoiding risks of government and market failures? The next section lays the ground for a resource revenue management approach that is suited to MENA’s context.

5. Policy implications: Towards a new model of resource revenues management suited to MENA

In light of the analysis in the previous sections of this paper, it becomes clear that resource rich countries (both VRR and MRR) of the MENA region have particularly failed to utilize their resource revenues as a tool for export diversification. This section addresses resource revenue management in the context of diversification objectives by offering a novel approach (or more exactly, by bringing back an “old” approach rooted in early structuralism) geared towards using resource revenues to overcome domestic structural constraints (such as low technological sophistication, limited areas of comparative advantage, low absorptive capacity) as well as mitigating economic risks associated with resource revenues (such as public investment inefficiency, absorptive capacity constraints, and Dutch disease). In fact, the dominant view in economic literature on the Gulf advances that the primary reason for the GCC diversification state is the so-called Dutch disease (Shehabi, 2019).

This approach, elaborated in Lebdioui (2019), is dynamic across time and institutional conditions. It is dynamic across time because it emphasizes the gradual shift between short-term fiscal stabilization and long-term progressive accumulation of productive capabilities in tradable sectors. It is dynamic across space because it recognizes that not all MENA countries face the same “urgency” to diversify their export basket. This approach is also dynamic across institutional conditions because it takes into account the state policy actions to improve the institutional capacity to invest over time. Indeed, this approach acknowledges the endogenous relationship between state capacity and growth by taking into account how certain patterns of resource revenue investment can contribute to building state capacity over time.

The main features of this approach are:

- (i) *Gradual scaling up domestic investments in real assets.*
- (ii) *Allowing for learning-by-doing in the build up of institutional capacity to invest efficiently.*
- (iii) *Expanding absorptive capacity by focusing on tradable sectors.*
- (iv) *Targetting specific industrial capabilities in order to reduce commodity dependence and macroeconomic instability on the long run.*

The issue of public investment efficiency has been largely debated in academic circles. For instance, Pritchett (2000) argued that public investment in many developing countries is not inherently productive because inefficiency, waste, or corruption, often distort the impact of public spending on capital accumulation. Some studies such as Petrie (2010) and Rajaram et al (2014) also have looked at the role of public investment in ‘transforming resources into assets for growth’ and focused on the role of institutional capabilities in ensuring efficiency of public investment management. However, these studies do not concretely inform us about how to design public investment and simply assume that high institutional capabilities will ensure the design and implementation of ‘good’ policies.

Collier et al. (2010) and Collier and Laroche (2015) argue that countries should invest in their capacity to invest *before* domestically investing their resource revenues to ensure that public investment leads to high returns in terms of growth. While this is a very sensible argument, the question that remains is: how do government increase their capacity to invest? Such arguments (often used against domestic resource revenue spending) rely on the assumption that it takes a long time for countries to develop good institutions and absorptive capacity (building up government administrative capacity, addressing bottlenecks in the economy, investment in education and skills), which means that public investment is likely to be inefficient in the meanwhile and cause economic distortions. However, one element of great importance that might be shadowed in such approach is the presence of opportunities for learning by doing.

In contrast to the two approaches explained above, Gelb and Grasmann (2009) argue that the allocation for domestic investments, rather being fixed at a certain portfolio share, should be determined on the basis of competition by being weighted against the potential returns on overseas investments. Hence, when domestic returns are low, investment would be channeled abroad. This would safeguard the efficiency and high returns of investments, while investment with a ‘developmental’ purpose can still be benchmarked against the financial return on foreign assets.

While this approach bears a lot of benefits and safeguards, it may not be suitable in terms of taking into account the ‘strategic’ and social value of certain investments over others, not only domestically but also abroad, and potential synergies between domestic and overseas investments. Indeed, overseas investment can be linked to strategic domestic industrial and thus should be measured not only in terms of their financial returns but also in terms of their spillover effects in the domestic economy. For instance, SWFs can serve as means to acquire strategic technology that could help promote the industrial upgrading of domestic industries, as well as acquire distribution channels that can be used to facilitate the exports of domestic goods. More importantly, it can be assumed that low-return yielding investment may be initially required in order to build competitiveness and increase the returns on domestic investments on the long run. Indeed, low domestic rates of returns can reflect the lack of dynamism or opportunities in a national economy but could also be the result of several bottlenecks that could be alleviated or because of lacking or aging infrastructure. In cases where domestic investments hold low returns because of bottlenecks that relate to infrastructure or human capital availability, determining domestic allocation of investment on the basis of competition with foreign assets would lead to stagnation and preservation of the status quo. Instead, initial transformational investments may then be needed to increase the marginal productivity of subsequent capital investments.

Departing from existing suggestions, Lebdioui (2019) suggested a policy alternative consisting in the gradual scale up in the domestic allocation of investments from resource revenues. This can allow for investment efficiency to improve through learning-by-doing as well as progressively expand the absorptive capacity of the national economy. Indeed, it can be argued that public investment efficiency involves some degree of learning by doing in developing the technical expertise and institutions required for project appraisal, implementation, monitoring and evaluation, and so on. By capping the allowance for domestic spending in the first few years of a commodity boom, potentially wasted revenues or the “damage” cause by inefficient investment is restrained. Indeed, scaling up public investment too much and too fast could subject the economy to more instability, lower investment efficiency, and higher depreciation rates, without the guarantee that such strategy would outperform a more conservative scaling-up path (Berg et al., 2012; Gelb and Grasmann, 2009). In contrast, gradually localizing the investments of resource revenues takes into account the diminishing marginal utility of public spending and the issue of absorptive capacity. The progressive increase in the allocation of investment domestically can also allow for the domestic economy to gradually adjust its supply side capabilities in order to absorb larger volumes of capital, thereby reducing risks of crowding out, both in terms of capital and skilled labour.^{21 22}

This gradual approach also reduces the cost of misjudging the duration of a commodity boom. Indeed, policy-makers have also often misjudged the nature of the boom, which can lead to high costs and inefficiency (Gelb and Grasmann, 2009). Policy makers may overspend revenues in the first years of what is perceived as a long commodity boom, but such commodity boom may turn out to be short. By gradually investing resource revenues domestically, policy makers avoid overspending in the case of a short boom but also ensure that investment have also accrued domestically in the case of a long boom. This approach consequently enables to safeguard short-term macroeconomic stability in the context of oil price volatility. Gelb and Grasmann (2009) have attempted to identify the size of fund that might be required not to fully smooth domestic spending, but to maximize a benefit function in which there are diminishing returns to spending. They find that, in the case of the short boom (which usually last less than five years), the optimum is to spend 20% of incremental oil revenues during the boom years and save the remaining 80%. For the long boom, it is optimal to spend 80% of incremental oil revenues and save the remaining 20% (ibid.), because over-saving resource revenues in low risk financial assets overseas bears a high opportunity cost in the long run. As a result, the savings rate should gradually decrease to around 20% over time, as the commodity boom prolongs, making way for other types of investments. The trade-off between financial investments and real investments is thus dynamic overtime and the policy priority should shift from fiscal stabilization towards capital accumulation in productive sectors to stimulate diversification on the long run. Given that it is difficult to estimate the duration of commodity booms, the option of gradually allocating more resources to domestic investments reduces the risks of overspending

²¹ Crowding-out does not only refer to the fall in private sector investment caused by higher government spending, but also to the skilled and specialized labour or resources that might be monopolized by government investments.

²² For instance, the gradual recruitment of skilled labour in a SWF may lead to higher competitiveness of the labour force, in contrast to the immediate recruitment of a large number of employees. In contrast, the excessive delay in investing domestically would also prevent local professionals from acquiring experience managing resource revenues.

resource revenues accumulated in a short commodity boom but would not delaying the reconfiguration of the domestic economy.²³

Emphasis on specific capabilities needed for targeting tradable sectors

Although increased government spending can generate demand pressures on non-traded goods, leading to a real appreciation and a decline in traded-good production (van Wijnbergen, 1984), efficient public investment can also raise productivity in non-resource tradable sectors, counteracting Dutch disease symptoms (Berg et al., 2010; Cherif and Hasanov, 2012, 2014). Over time, resource revenues can indeed be used to relax capital and technological constraints, especially in non-mineral resource sectors, in order to promote the diversification of productive structures. By studying of the optimal consumption, saving and investment policies of oil exporters, Cherif and Hasanov (2012) concluded that the tradable sector plays a paramount role in investment-saving dynamics and that developing countries may need to pursue a purpose-specific set of policies to develop tradable sophisticated sectors rather than rely solely on providing an “enabling environment” in which a sophisticated export sector would spontaneously emerge by itself. Export diversification would contribute to long-term macro economic stability, even more so than the prescribed short-term fiscal stabilization through the saving of resource revenues overseas. This argument is in line with the idea that macroeconomic policies are not enough to solve macroeconomic problems.

Collier et al. (2010) also argues that public spending designed to increase the competitiveness of private sector investments can offset the dangers of crowding out and Dutch disease. Nevertheless, a sole focus on the ‘capacity to absorb investment’ offers no guarantees that the economy will be able to diversify and productively “develop” rather than merely “grow” while remaining resource-dependent. Indeed, relying on already existing market structures and simply enhancing private sector activities might be unlikely to lead to diversification. Enhancing the productivity of the tradable sector is not just a matter of marginal returns to private capital because the mechanisms to enhance productivity can be interpreted more broadly. For instance, technological acquisition and economic diversification can be factors of enhanced productivity in the non-resource tradable sector of a resource rich economy. Cherif and Hasanov (2012:18) also argue that productivity increases as a resource abundant economy become more diversified, which sheds light on sequencing concerns: It is not only a matter of improving productivity to diversify, but also of diversifying in order to improve productivity and absorb investments. These concerns highlight the need for a transformation of productive structure and call for a broader and more complex consideration for the role of public investment of resource rents in orienting market incentives towards a diversification of the tradable sector.

The need to focus public investment in the non-resource sectors becomes even more justified in the context of resource dependence. As Arezki (2011) suggests, government in resource-rich countries should increase their revenue mobilization in the non-resource sector, through taxation, for instance. He rightly points out that increasing non-resource-sector revenue mobilization would deliver other benefits, including combating volatility in government revenues by diversifying the

²³ Such rule would not necessarily oblige states to invest all their domestic allowance but would only constitute a cap. It is thus not systematically incompatible with the suggestion by Gelb et al. (2014a) to allocate domestic investments in competition with external assets.

sources of government revenues. However, Arezki (2011) focuses on revenue mobilization *from* the non-resource sector, instead of resource mobilization *towards* the non-resource sector, in contrast to Cherif and Hasanov (2012). This distinction matters because before being able to increase revenues from taxation of non-resource sectors, unless there are already pre-existing sources of revenues from dynamic non-resource sectors (which is by definition not the case in resource-dependent economies), governments first need to stimulate new sources of revenue generation in non-resource sectors.

Governance capabilities that can reduce risks of political capture

While this section has shown that a different approach to investing resource revenues can reduce the economic risks associated with domestic resource revenue investments, how can we mitigate risks of political capture? The sole creation of resource funds alone is neither necessary nor suffice to sustain good macroeconomic management, since funds can be subverted and captured when the institutional environment is weak (Davis, et al., 2003; Gelb and Grasmann, 2009). A government's ability to spend revenues and allocate resources effectively is affected not only by the level of institutional development prior to extractives production, but also by political factors that come into play once (1) public expectations of a new flow of extractives revenue are raised and (2) a state-business elite has developed on the basis of rent capture (Lahn and Stevens, 2018). However, attention needs to be given to the governance capabilities that states needed to have to implement industrial strategies effectively (Khan, 2003). The literature on managing resource revenues has often featured a static view of the trade off between the risks and benefits associated with the domestic investment of resource revenues. However, as in the context of growth strategies more broadly, the rent-seeking costs have to be set against the gains (ibid.). In addition, if it is true that governments lack the capacity to invest domestically, what makes them more likely to target project and invest overseas more efficiently than domestically? It can be argued that government can also poorly target investment opportunities overseas (unless they entrust the management of the funds to international fund managers but the country characterized by bad governance and poor institutional capacity might be the least likely to give up control of its resource revenues). More attention should thus be given to the accountability mechanisms and benchmarks that can help ensure that resource revenues are managed productively.

While the political risks associated with public resource revenue investment are extremely important and sometimes cannot be eliminated, it should be stressed that they are not unavoidable and that several institutional measures exist to mitigate them and ensure the integrity of investment decisions (see Gelb et al., 2014a; Gelb et al., 2014b). Here, I will discuss examples of institutional measures to reduce the risks of elite capture at two levels: (i) nation-level (evaluation and monitoring, ex ante, ex post, vertically and horizontally), and (ii) firm-level (corporate governance).²⁴

(i) Nation-level institutional measures

Evaluation and monitoring mechanisms are important to avoid while elephant projects. As put

²⁴ Gelb et al (2014a) also puts forward the example of co-investing by SWFs with private investors, pooling with other SWFs, and co-financing with international financial institutions in order to reduce risk of influence by political and lobbying pressure, bring in additional expertise, and enhance the credibility and integrity of the investment decision.

forward by Collier et al. (2010), avoiding elite capture requires both honesty and efficiency, which can be enforced in multiple ways, either ex ante (about how decisions get authorized) or ex post (evaluation). In addition, monitoring and evaluation mechanisms can derive from top-down authority, bottom-up pressure from citizens and their representatives, civil society groups, as well as norms internalized by the public sector workforce (ibid.).

Efficient evaluation and monitoring also require transparent reporting. SWFs permitted or mandated to invest domestically should thus issue publicly available reports covering their activities, assets, and returns, as well as allow to be audited both internally and externally (Gelb et al, 2014a). While all funds embody “vertical accountability” (reporting to the government), some also mandate “horizontal accountability” to a wider audience, by making information on balances, earnings, deposits and withdrawals publically available or by sharing decision-making power among a range of interest groups independent of the government (Gelb and Grasmann (2009). In Norway, although the fund is administered by the Central Bank, decisions on transfers must be approved by parliament. In contrast, in Algeria, the lack of horizontal transparency enabled the depletion, within two years, of the *Fond de Regulations des Recettes*, which accumulated USD 32,5 billion, to finance the government budget (Le Matin d’Algerie, 2017). Increased transparency reduces the risks of elite capture, increase accountability and may be implemented by government who may be concerned that they will be followed by governments that are prepared to loot accumulated funds (Collier et al., 2010). The Extractive Industries Transparency Initiative (EITI) is an example of global standard for the good governance of oil, gas and mineral resources. The EITI Standard requires information along the extractive industry value chain. However, while 52 countries have signed and implemented the EITI standard, only one country in the MENA region (Iraq) has implemented this standard to date. Much more efforts are thus needed in the MENA region in order to improve transparent reporting of investment decisions.

(ii) Firm-level corporate governance

Corporate governance is the system of rules and practices by which a firm is managed. It involves balancing the interests of a company's stakeholders, management, government and the community (Shailer, 2004). There is a large body of knowledge on corporate governance but in the context of this research, the independence of the board from political interference is particularly relevant.

In order to improve the efficient management of resource revenues, some scholars have emphasized the separation of the state (as well as national development banks and SOEs) from resource revenue management (e.g. Gelb et al, 2014b). On the one hand, while government officials often serve as board members for state-owned entities, combining ownership and supervisory roles presents conflicts of interest that could undermine the integrity investments and lead to political capture (ibid.). Nominations committees as well as board members should comprise individuals that meet specific skills and experience requirements and that are deemed to be objective, which can contribute to ensure a politically independent selection process, although perfect independence can hardly be achieved when the owner is the state (ibid.). For instance, civil society representatives sit on the Petroleum Oversight Committee in Sao Tome, while spending decisions in Kazakhstan and Azerbaijan are essentially those of the President (Gelb and Grasmann, 2009). In Alaska and Norway, the management of the resource funds has been delegated to bodies that to a large degree are independent from politicians (Torvik, 2011).

On the other hand, it could be argued that the protection of resource revenue management from government inference is not necessarily always desirable. First, separating resource revenue management from the state seems unrealistic because countries with weaker institutions are likely to be the ones that do not set up reforms to limit the prerogatives and control of corrupt leaders and the state over resource revenues. Second, one could argue that markets alone fail to deliver diversification objectives and that resource revenue management should be linked to broader industrial policy objectives, as determined by the state, in order to foster complementarity, rather than being managed in isolation to policy objectives. In addition, domestic public investments are not only commercially minded but also carry a social mandate, with an allowance for lower returns as a trade-off for public utility (Ross, 1999; Cammet et Diwan; 2016; Gelb, et al. 2014). Nevertheless, because social returns are often difficult to measure, the allowance for lower returns has allowed for corruption, cronyism, lobbying from special interests and political agendas to distort public investments. For instance, governments in oil rich countries have often used oil rents to buy popular support before elections through consumption subsidies, white elephant projects and other wasteful spending, rather than socially efficient projects (Robinson and Torvik, 2005). In countries the MENA region, like resource-derived rents could be redirected away from vanity projects and in more constructive directions (Noland, 2011). To achieve such outcome, strong benchmarks and guidelines should be put in place in order to define the allowance for investments of resource revenues that carry a social mandate beyond sole profits.

Arezki (2019:27) “Institutional factors—such as corporate governance, legal systems, and contestable markets—and patronage spending in state-owned companies, affect attitudes toward innovation and openness to new ideas and, therefore, the process of transformation in oil-rich countries”. In Saudi Arabia, the announcement of an initial public offering of the state-owned oil company, Aramco, may be interpreted as a step towards increased transparency in one of the region’s most valuable and largest business.

6. Conclusion

This study bears important implications for resource-rich economies of the MENA region that aim to diversify their economies. First, it sheds light on the need to adapt diversification strategies and resource revenue management based on contextual determinants (such as the level of resource abundance per capita, the urgency to diversify the economy based on current dependence on extractive exports, infrastructure deficits and public investment stock to date). As a result, it moves away for a one size fits all solutions. This paper concludes that in the MENA region, in order to diversify their economies, MRR countries such as Algeria and Iran should pursue a resource revenue management model that differs from the one currently followed by VRR countries such as the UAE, Qatar and Saudi Arabia, which is more based on financial diversification rather than the transformation of the domestic productive structures.

Secondly, and relatedly, this paper contributes to reshape the discourse on resource-based development, which has in recent years emphasized the “Norwegian model” while neglecting the role of export diversification and production. Indeed, mainstream models of resource revenue management, most of which are based on the permanent income hypothesis (suggesting that resource rich developing countries should invest all their resource revenues in financial assets

abroad), are dominated by a short-term emphasis on consumption, fiscal stabilization and market equilibrium at the expense of long term structural change. As a result, such approaches have only addressed the symptoms of the resource curse (vulnerability to commodity price volatility) but not its root cause (productive dependence on commodities).

Thirdly, this paper puts forward a new approach for investing resource revenues in order to maximize the benefits in terms of export diversification outcomes. This approach, which is particularly relevant for the petroleum-dependent economies of the MENA region, puts forward institutional measures to reduce the risks of elite capture and investment inefficiency. It also features an active role of the state in promoting diversification through investments to relax financial and technological constraints in new tradable sectors.

References

- Amsden, A. (1994) "Why Isn't the Whole World Experimenting with the East Asian Model to Develop? Review of The East Asian Miracle" *World Development*, Vol. 22, No. 4, pp. 627-633.
- Andreoni, A. and Chang H-J. (2017) "Bringing production and employment back into development: Alice Amsden's legacy for a new developmentalist agenda", *Cambridge Journal of Regions, Economy and Society*, Volume 10, Issue 1, pp.173–187
- Araujo, Juliana, Bin Grace Li, Marcos Poplawski-Ribeiro, and Luis-Felipe Zanna, 2012, "Current Account Norms in Natural Resource Rich and Capital Scarce Economies." Manuscript, International Monetary Fund.
- Arezki, R. and F. van der Ploeg (2008). Can the natural resource curse be turned into a blessing? Role of trade policies and institutions, IMF Working Paper 07/55, International Monetary Fund, Washington, D.C.
- Arezki (2011) "Fiscal Policy in Commodity- Exporting Countries: Stability and Growth" in Arezki, R; T. Gylfason, and A. Sy (eds.) (2011) *Beyond the Curse: Policies to harness the power of natural resources*, Washington D.C.: IMF.
- Arezki, R; T. Gylfason, and A. Sy (eds.) (2011) *Beyond the Curse: Policies to harness the power of natural resources*, Washington D.C.: IMF.
- Auty, R.M. and Gelb, A.H. (2000) '*Political Economy of Resource Abundant States*', Paris: Annual Bank Conference on Development Economics.
- Barnett, S., and R. Ossowski, "Operational Aspects of Fiscal Policy in Oil-Producing Countries," 2003, in J. Davis, J. Ossowski, and A. Fedelino, eds., *Fiscal Policy Formulation and Implementation in Oil-Producing Countries*, (Washington, D.C.: International Monetary Fund).
- Bateman, M. and H-J. Chang (2012) "Microfinance and the Illusion of Development: From Hubris to Nemesis in Thirty Years" *World Economic Review* Vol 1: 13-36
- Bauer, A. (2015) *Six Reasons Why Sovereign Wealth Funds Should Not Invest or Spend at Home*, Accessible at <http://www.resourcegovernance.org/blog/six-reasons-why-sovereign-wealth-funds-should-not-invest-or-spend-home-0>.
- Bauer, A. and Rietveld, M. (2014), *Institutional Structure of Natural Resource Funds*, New York, Revenue Watch Institute-Vale Columbia Center on Sustainable International Investment, April.
- Bems, Rudolfs, and Irineu de Carvalho Filho, (2011), "The Current Account and Precautionary Savings for Exporters of Exhaustible Resources," *Journal of International Economics*, Vol. 84, No. 1, pp. 48-64.
- Berg A., Portillo, R., Yang, S.S.S and Zanna, L.F. (2012) "Public Investment in Resource-Abundant Developing Countries", *IMF Working Paper*, WP/12/274. Washington DC: International Monetary Fund.
- Bond, J., & Fajgenbaum, J. (2014). Harnessing Natural Resources for Diversification. *Global Journal of Emerging Market Economies*, 6(2), 119-143.
- Brautigam, D., O.-H. Fjeldstad, and M. Moore, 2008, *Taxation and State-Building in Developing Countries: Capacity and Consent* (Cambridge: Cambridge University Press).
- Bravo-Ortega, C., & de Gregorio, J. (2007). The relative richness of the poor? Natural resources, human capital and economic growth. In D. Lederman, & W. F. Maloney (Eds.), *Natural resources, neither curse nor destiny* (pp. 71-99). Washington, DC: Stanford University Press and the World Bank.
- Cadot, C Carrère and V Strauss-Kahn, (2011), Export diversification: What's behind the hump? *The Review of Economics and Statistics*, 93(2):590–605.
- Cammett M., I. Diwan, A. Richards and J. Waterbury (2016) *A Political Economy of the Middle East*, 4th Eds. Westview Press.

- Chang H.-J. (2007) "State-Owned Enterprise Reform", *United Nations DESA National Development Strategies Policy Notes*, New York: United Nations DESA.
- Chang H.-J. (2010), "Hamlet without the Prince of Denmark: How development has disappeared from today's 'development' discourse" in S. Khan & J. Christiansen (eds.), *Towards New Developmentalism: Market as Means rather than Master* Abingdon: Routledge.
- Chaudhry, K. A. (1993) "The myths of the market and the common history of late developers." *Politics and society* 21(3): 245-274.
- Chaudhry, K. A. (1997) *The Price of Wealth: Economies and Institutions in the Middle East*, Ithaca, NY: Cornell University Press.
- Cherif, R. and Hasanov, F. 2012 "Oil Exporters' Dilemma: How Much to Save and How Much to Invest", *IMF Working Paper*, WP/12/4 Washington DC: IMF.
- Cherif, R. and Hasanov, F. (2014). "Soaring of the Gulf Falcons: Diversification in the GCC Oil Exporters in Seven Propositions", *IMF Working Paper* WP/14/177. Washington DC: IMF.
- Cherif, R., Hasanov, F., and Wang, L. (2018). "Sharp Instrument: A Stab at Identifying the Causes of Economic Growth" *IMF Working Paper* WP/18/117. Washington DC: International Monetary Fund.
- Cimoli, M.; Dosi, G.; Stiglitz, J.E. (eds). (2009). *Industrial policy and development: The political economy of capabilities accumulation*, Oxford: Oxford University Press.
- Collier, P., van der Ploeg, R., Spence, M. and Venables, A.J. (2010), "Managing Resource Revenues in Developing Economies," *IMF Staff Papers*, Vol. 51, No. 7, pp. 841-18.
- Collier, P. and Laroche, C. (2015) "Harnessing Natural Resources for Inclusive Growth", *Growth Brief*, International Growth Center, (March). Accessible at www.theigc.org/wp-content/.../IGCGrowthBriefNRMCollier2015.pdf
- Crivelli, E. and S. Gupta (2014) "Resource Blessing, Revenue Curse? Domestic Revenue Effort in Resource-Rich Countries", *IMF Working Paper*, No. 14/5, Washington DC: IMF
- Davis, J., R. Ossowski, J. Daniel, and S. Barnett. 2003. "Stabilization and Savings Funds for Nonrenewable Resources." In *Fiscal Policy Formulation and Implementation in Oil-Producing Countries*, J. Davis, R. Ossowski, and O. Fedelino, eds. Washington, DC: International Monetary Fund
- Devarajan, S. (2019). "How to use oil revenues efficiently" in Mohaddes, K., Nugent, J. B., & Selim, H. (Eds.). *Institutions and Macroeconomic Policies in Resource-Rich Arab Economies*. Oxford University Press.
- Di John, J. (2009) *From Windfall to Curse? Oil and Industrialization in Venezuela, 1920 to the Present*. University Park, PA: Penn State University Press.
- Ericson, M. and Löf, O. (2018) "Mining's Contribution to Low- and Middle-income Economies", in Addison T. and Roe, A. (eds) *Extractive Industries: The Management of Resources as a Driver of Sustainable Development*. Oxford University Press.
- Eubank, N., (2012), "Taxation, Political Accountability and Foreign Aid: Lessons from Somaliland", *Journal of Development Studies*, 48(4), pp. 465-480.
- Friedman, Milton (1957). "*The Permanent Income Hypothesis*": [A Theory of the Consumption Function](http://www.princeton.edu/~princpress/). Princeton University Press.
- Gelb, A. et al. (1988). *Oil windfalls - Blessing or curse?*. Washington, DC: World Bank. <http://documents.worldbank.org/curated/en/1988/10/2827247/oil-windfalls-blessing-or-curse>.
- Gelb, A. & Grasmann, S. (2009). "Déjouer la malédiction pétrolière". *Afrique contemporaine*, no 229,(1), 87-135.

- Gelb, A. (2010) "Economic Diversification in Resource Rich Countries", *Proceedings from the high-level seminar on Natural resources, finance, and development: Confronting Old and New Challenges, organized by the Central Bank of Algeria and the IMF Institute in Algiers, on 4-5 November*.
- Gelb, A., Tordo, S. and Halland, H. (2014). "Sovereign Wealth Funds and Domestic Investment in Resource-Rich Countries: Love Me, or Love Me Not?," *The World Bank*, issue 133, pages 1-5.
- Gylfason, T. (2011) "Natural resources: a mixed blessing?" in R. Arezki, T. Gylfason, and A. Sy *Policies to harness the power of natural resources*, Washington D.C.: IMF.
- Hallas, L. (2018) "Soutien à l'emploi de jeunes: 10% de crédits Ansej non remboursés" *Le Soir d'Algerie*, May 14, accessible at <https://www.lesoirdalgerie.com/actualites/10-de-credits-ansej-non-rembourses-5018> [last accessed August 18]
- Hamilton, K., Ruta, G., and Tajibaeva, L. (2006). Capital accumulation and resource depletion: a Hartwick rule counterfactual. *Environmental & Resource Economics* 34:517–533
- Hausmann, R. and D. Rodrik, (2006) "Doomed To Choose: Industrial Policy As Predicament" *Paper prepared for the first Blue Sky seminar organized by the Center for International Development at Harvard University*. Cambridge, MA: Harvard University.
- Hertog, S. (2010). "Defying the resource curse: explaining successful state owned enterprises in rentier states." *World Politics* 62(2) 261-301.
- Hirschman, A.O. (1981), *Essays in Trespassing: Economics to Politics and Beyond*. Cambridge: Cambridge University Press.
- International Forum of Sovereign Wealth Funds (2018) "Botswana - Pula Fund", accessible at www.ifswf.org/file/821/download?token=GoNe5ggo [last accessed August 15]
- International Monetary Fund (2012) *Macroeconomic Policy Frameworks for Resource-Rich Developing Countries*. Washington, D.C.: International Monetary Fund
- Isaksson, A. (2009) "Public Capital, Infrastructure and Industrial Development", *UNIDO Research And Statistics Branch*, Working Paper 15/2009.
- Jewell, A. (2016) "The Need for Subsidy Reform in Algeria", *IMF Blog*, accessible at <https://www.imf.org/external/np/blog/nafida/083116.pdf> [last accessed September 15 2018]
- Karl, T.L. (1997) *The Paradox of Plenty: Oil Booms and Petro States*. Berkeley: University of California Press.
- Khan, M. (2007) "Governance, Economic Growth and Development since the 1960s", *DESA Working Paper No. 54 ST/ESA/2007/DWP/54*
- Khan, M. (2010) *Political Settlements and the Governance of Growth-Enhancing Institutions*. (Unpublished)
- Lederman, D., & Maloney, W. F. (2007). 'Trade structure and growth'. In D. Lederman, & W. F. Maloney (Eds.), *Natural resources, neither curse nor destiny* (pp. 15-39). Washington, DC: Stanford University Press and World Bank.
- Le Matin d'Algérie (2017). "Le Fonds de régulation des recettes épuisé depuis février", September 8th, *Le Matin d'Algérie*, accessible at <http://www.lematindz.net/news/25295-les-fonds-de-regulation-des-recettes-epuise-depuis-fevrier.html> [last accessed August 18]
- Lucas, Robert, 1990, "Why Doesn't Capital Flow from Rich to Poor Countries," *American Economic Review Papers and Proceedings*, Vol. 80, No. 2, pp. 92-96.
- Maloney, W. (2002). "Missed Opportunities: Innovation and Resource-Based Growth in Latin America." *Economia* 3 (1): 111–51
- Mahdavy, H. (1970), "The Pattern and Problems of Economic Development in Rentier States: The Case of Iran",

- in *Studies in the Economic History of the Middle East*, ed. M.A. Cook . Oxford University Press, Oxford.
- McKinsey (2016) “Moving Saudi Arabia’s economy beyond oil”, accessible at <http://www.mckinsey.com/global-themes/employment-and-growth/moving-saudi-arabias-economy-beyond-oil> [last accessed 23 July 2018]
- Mehlum, H., K. Moene and R. Torvik (2006). Institutions and the resource curse, *Economic Journal*, 116, 1-20.
- Meller, P. and Zenteno, I (2013) “Diversificación De Exportaciones En América Latina: Experiencias Y Lecciones Para Políticas Públicas” in Patricio Meller (eds) *Recursos Naturales y Diversificación Exportadora. Una mirada de futuro para América Latina*, Cieplan, pp. 123-166
- Mohaddes, K., & Raissi, M. (2017). Do sovereign wealth funds dampen the negative effects of commodity price volatility?. *Journal of Commodity Markets*, 8, 18-27.
- Moore M. and Rakner, L. (2002): “Introduction: The New Politics of Taxation and Accountability”. *IDS Bulletin* 33 (3).
- North, D.C, J.J. Wallis, and B.R Weingast. (2009) *Violence and social orders: a conceptual framework for interpreting recorded human history*. Cambridge University Press.
- OECD (2016) *Resource Revenue Earmarking: Comparative Analysis And Lessons Learned*, accessible at <https://www.oecd.org/dev/inclusivesocietiesanddevelopment/Session-6-Report-on-Earmarking-Practices.pdf>
- OECD (2018) *Managing And Spending Extractive Revenues For Sustainable Development: Policy Guidance For Resource-Rich Countries*, accessible at http://www.oecd.org/dev/%5BSession1%5D_Consolidated_Report_Work_Stream_2.pdf
- O’Sullivan, A., Rey, M.-E., and Mendez, J.G. (2011), ‘Opportunities and Challenges in the MENA Region’, *Arab World competitive report* OECD, 43, 67.
- Petrie, M. (2010) “Promoting Public Investment Efficiency A Synthesis of Country Experiences.” Paper presented at World Bank Preparatory Workshop, “Promoting Public Investment Efficiency; Global Lessons and Resources for Strengthening World Bank Support for Client Countries,” Washington DC, July 7.
- Ploeg, F. van der and S. Poelhekke (2008). Volatility, financial development and the natural resource curse, Oxcarre Research Paper 2008-03, University of Oxford.
- Pritchett, L. (2000) “The Tyranny of Concepts: CUDIE (Cumulated, Depreciated, Investment Effort) Is Not Capital”, *Journal of Economic Growth*, 5: 361–384
- Rajaram, A. ; Tuan, M,L. ; Kai K. , Jay-Hyung K. and Jonas F. , Eds. (2014). *The Power of Public Investment Management: Transforming Resources into Assets for Growth*. Directions in Development. Washington, DC: World Bank
- Robinson, J.A. and Torvik, R. (2005) “White elephants”, *Journal of Public Economics* 89, 197- 210.
- Ross, M. (1999) “The Political Economy of Resource Curse”, *World Politics*, 51 (January), 297-322.
- Sachs, J.D. and A.M. Warner (1995) *Natural Resource Abundance and Economic Growth*, i National Bureau of Economic Research (1995) (Working Paper No. 5398, December)
- Sachs, J.D., & Warner, A.M. (1997). “Natural resource abundance and economic growth”. In G. Meier, & J. Rauch (Eds.), *Leading issues in economic development*. Oxford, UK: Oxford University Press.
- Sachs, J. D., & Warner, A. M. (2001). “The curse of natural resources”. *European Economic Review*, 45, 827-838.
- Sachs, Jeffrey D., “Chapter 7: How to Handle the Macroeconomics of Oil Wealth?,” 2007, in Macartan Humphreys, Jeffrey D. Sachs, and Joseph E. Stiglitz, eds., *Escaping the Resource Curse*, (New York:

Columbia University Press).

- Shailer, G. (2004) *An Introduction to Corporate Governance in Australia*, Sydney: Pearson Education Australia
- Takizawa, Hajime, Edward H. Gardner, and Kenichi Ueda, 2004, "Are Developing Countries Better Off Spending Their Oil Wealth Upfront?" IMF Working Paper WP/04/141.
- Torvik, R. (2011) "The Political Economy of Reform in Resource-Rich Countries" in Arezki, R; T. Gylfason, and A. Sy (eds.) (2011) *Beyond the Curse: Policies to harness the power of natural resources*, Washington D.C.: IMF.
- UNCTAD Secretariat, 2006, "Boosting Africa's Growth through Re-Injecting "Surplus" Oil Revenue: an Alternative to the Traditional Advice to Save and Stabilize," Technical Report, The United Nations Conference on Trade and Development,). July 28.
- UNCTAD (2018) "Standard International Trade Classification (SITC) Revision 3", *UNCTADSTAT*, accessible at http://unctadstat.unctad.org/EN/Classifications/DimSitcRev3Products_Official_Hierarchy.pdf [last accessed August 15]
- United Nations Development Program (2016), "Human Development Report 2016: Human development for everyone", *Country Explanatory Notes (Chile)*, New York: UNDP.
- Van der Ploeg, F. (2010). "Why Do Many Resource-Rich Countries Have Negative Genuine Savings? Anticipation of Better Times or Rapacious Rent Seeking," *Resource and Energy Economies*, Vol. 32, pp. 28-44.
- Van der Ploeg, F., and A.J. Venables. (2010). "Absorbing a Windfall of Foreign Exchange: Dutch Disease Dynamics." *OxCarre Research Paper*, n.52, Oxford.
- Van der Ploeg, F. and Anthony J. Venables, (2011). "Harnessing Windfall Revenues: Optimal Policies for Resource-Rich Developing Economies," *The Economic Journal*, Vol. 121, No. 551, pp. 1-30.
- Varas, M.E. (2012) *Economic Diversification: The Case of Chile*. Revenue Watch Institute. Accessible at https://resourcegovernance.org/sites/default/files/RWI_Econ_Diversification_Chile.pdf
- Venables, A.J., (2010). "Resource Rents; When to Spend and How to Save," *International Tax and Public Finance*, Vol. 17, pp. 340-356.
- Villafuerte, M. ; R. Ossowski ; T. Thomas and P.A. Medas (2008). "Managing the Oil Revenue Boom: the Role of Fiscal Institutions" *Occasional Paper No. 260*. Washington, D.C.: International Monetary Fund
- White House Archives (2012) "Fact Sheet: Sanctions Related to Iran" July 31, accessible at <https://obamawhitehouse.archives.gov/the-press-office/2012/07/31/fact-sheet-sanctions-related-iran> [last accessed 1 August 2018]
- Witter, S. and Jakobsen, M. (2018) "Choices for Spending Government Revenue: New African Oil, Gas, and Mining Economies" in Addison T. and Roe, A. (eds) *Extractive Industries: The Management of Resources as a Driver of Sustainable Development*. Oxford University Press.
- World Bank. (2007). *Middle East and North Africa Region: 2007 Economic Developments and Prospect, Job Creation in an Era of High Growth*. Washington DC: World Bank.
- World Bank. (2011). *The Changing Wealth of Nations: Measuring Sustainable Development in the New Millennium*. Washington, D.C.: World Bank.
- World Bank (2013), "Malaysia Economic Monitor: Harnessing Natural Resources" *World Bank*, Accessible at http://www.worldbank.org/content/dam/Worldbank/document/EAP/malaysia/Malaysia_Economic_Monitor_June2013.pdf
- World Economic Forum (2018) *Thinking Strategically: Using Resource Revenues to Invest in a Sustainable Future*. Geneva: World Economic Forum.