Review of Socio-Economic Perpectives **Gunesch, K. pp. 73-95**
Vol. 3. Issue: 1/ June 2018

DOI: 10.19275/RSEP044
Received: *21.12.2017*
Accepted: *18.04.2018*

THE NATURAL RESOURCE CURSE: A SOCIOECONOMIC AND SOCIOPOLITICAL ANALYSIS OF CAUSES AND SYMPTOMS COMBINED WITH MACROECONOMIC SOLUTION SUGGESTIONS FOR INTERNATIONAL DEVELOPMENT POLICY AND PRACTICE

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Abstract

The "natural resource curse" has attracted demands for more research in recent literature. This research firstly frames that literature conceptually by giving an exact overview of the development of the terminology and symptoms of the resource curse. It then examines explanatory models and theories for the resource curse for their scientific thoroughness and convincingness, before analyzing several of the sociopolitical and macroeconomic challenges posed by it, and then evaluating a range of suggested solution models for their socioeconomic, sociopolitical and macroeconomic viability, with a macroeconomic core argument. The first main contribution of this research lies on the conceptual level, namely a unique synthesis of explanation models, encountered challenges and proposed solutions that does not yet exist in this complex yet concise way in the literature. The second main contribution, on the methodological level, fits the complexity of the natural resource curse and respects the afflicted people and countries, by combining a multidisciplinary and qualitative approach with a socioeconomic and sociopolitical scope and a macroeconomic investigation. The qualitative approach integrates literature requests for interdisciplinary, qualitative and collaborative methodologies. Thus oriented, we will evaluate national and international suggested pathways, practices and policies for today's globalizing world from macroeconomic perspectives, specially focusing on combined international political and national macroeconomic solution models and policy measures, such as development aid and non-aggressive international intervention, which stand the best chances of being welcomed internally in the country, individually by its leaders, institutionally by its governments, and internationally by the world community. Finally, this research synthesizes eleven solution suggestions, namely four sociopolitical and socioeconomic ones and seven macroeconomic ones, across social and economic sciences and disciplines. Thus its overall contribution to development studies and macroeconomics lies in offering conceptually solid and practically viable socioeconomic and macroeconomic options, to benefit both developed and developing nations and world regions.

Keywords: Resource Curse, Dutch Disease, Resource Trap, Macroeconomic Development, Development Economics.

JEL Classification: E61, E71, F42, F43, F62, O11.

Citation: Gunesch, K. (2018). The Naturel Resourse Curse: A Socioeconomic and Sociopolitical Analysis of Causes and Symptoms Combined with Macroeconomic Solution Suggestions for International Development Policy and Practice, Review of Socio-Economic Perspectives, Vol. 3(1), pp. 73-95. DOI: 10.19275/RSEP044.

1. Introduction and Overview

1.1. Recent Research and Historical Roots

The most recent literature summarizing macroeconomic research on the resource curse openly admits that there is still a lot to find out, even after "what we have learned from two decades of intensive research" (Papyrakis, 2017, p. 175). Along these two decades of research, it has been acknowledged (see Gilberthorpe and Papyrakis, 2015, p. 382; Humphreys, Sachs and Stieglitz, 2007, p. 1) that the term "resource curse" was first coined by Richard Auty in his 1993 book *Sustaining Development in Mineral Economies: The Resource Curse Thesis*, when he asserted under the book's first heading, "The Resource Curse Thesis and Mineral Economies":

> "The conventional view concerning the role of natural resources in economic development has been that the resource endowment is most critical in the early low-income stages of the development process…However, a growing body of evidence suggests that a favorable natural resource endowment may be less beneficial to countries at the low- and mid-income levels of development than the conventional wisdom might suppose. Two important pieces of this evidence are the developing countries' postwar industrialization efforts and the performance of the mineral-rich developing countries since the 1960s" (Auty, 1993, p. 1).

Corresponding to its late-20th century academic discovery and discussion, the phenomenon of the resource curse is widely viewed as one of the modern era (Barbier, 2005, p. 2; Ross, 2016, pp. xiv, 11). The "modern era" in this sense goes back to the age of transatlantic discoveries, current with macroeconomic literature invoking the example of 17th-century Spain, after having profited from a century-long influx of New World resources, economically and industrially still fell behind the resource-poor Netherlands (Moss-Lambert and Majerowicz, 2015, p. 33; Ross, Torvik and Verdier, 2006, p. 450; for a world history framework see Frankopan, 2015, pp. 243-263; Karl, 1997, pp. 36-40).

1.2. Terminology and Differentiation

Some authors use a synonym to resource curse, namely "Dutch Disease" (see Auty, 1993, p. 5; Collier, 2008, p. 39). This term was coined by a 1977 article in a 1977 issue of *The Economist* titled "The Dutch Disease", named after the 1959 discovery of the Groningen natural gas field (at that time the largest natural gas field in Europe and the tenth largest in the world, see Whaley, 2009) in the North Sea off the Netherlands' northeastern coast, and its effect on the Dutch economy: soaring gas extraction and exports brought in foreign currency,

appreciated the Dutch currency, the guilder (which, according to some, is the main cause of the Dutch disease, see Boianovsky, 2012, p. 59; Sachs 2007, p. 182), decreased global competitiveness of other Dutch exportable sectors and goods, let the manufacturing sector decline in favor of the oil sector, and finally unemployment rates quintuple and corporate investments plummet.

Some differentiate more precisely between the resource curse as a result of "weak institutions that facilitate corruption or rent-seeking", and the Dutch disease as "a market failure" (Bresser-Pereira, Oreiro and Marconi, 2015, p. 70; similarly Snowdon and Vane, 2005, p. 654). Some expressly "reject the distinction between the Dutch disease and the natural resource curse", as these are "the same phenomenon, seen from two angles: the economic one and the moral and political one" (Bresser-Pereira, Oreiro and Marconi, 2015, p. 71). This research and author differentiates and uses "resource curse" for terminological and methodological precision and consistency, to focus clearly on socioeconomic, macroeconomic and resource instances that could occur worldwide, and to enhance the generalizability and applicability of its final solution suggestions.

2. Literature Review

2.1. Resource Locations, Materials, and Counterexamples

The literature admits that "low-income countries that most desperately need money are also the most likely to be struck by the resource curse" (Ross, 2012, p. 11), conceding that "the resource curse is…a global phenomenon". Most agree that is "of major relevance for Africa" (Lay and Mahmoud, 2005, p. 58; similarly Busia and Akong, 2017, p. 175; Kararach and Odhiambo, 2017, p. 148). Consequently, the African countries most consistently mentioned as afflicted or at least endangered by the resource curse are (alphabetically): Algeria, Angola, Chad, Equatorial Guinea, Gabon, Ghana, Guyana, Kenya, Liberia, Libya, Mozambique, Nigeria, Sierra Leone and Tanzania. Two other world regions are also often mentioned, namely South and Central America as well as the Caribbean, with the nations of Bolivia, Cuba Venezuela, as well as Trinidad and Tobago. Finally, in the Asian and Pacific region, the most mentioned nations are Malaysia, Mongolia, Myanmar, Papua-New Guinea, Sri Lanka and Timor Leste (Akacem and Cachanosky, 2017, p. 1; Auty, 2017, p. 264; Hilson, 2017, pp. 229-231; Mosley, 2017, pp. 4, 176; Moss, Lambert and Majerowicz, 2015, pp. 2, 34; Pick, 2010, pp. 267-270; Ross, 2012, p. 12; Saylor, 2014, p. 210).

By contrast, the literature also provides counterexamples of countries that have managed to avoid the resource curse despite having started out resource-

dependent, such as Botswana, Chile, Ecuador, Malaysia, Oman and Thailand (Esanov, Raiser and Buiter, 2006, pp. 52-53; Robinson, Torvik and Verdier, 2006, p. 463-465). Two of these countries will be analyzed below in depth: one that stands for greatest affliction by the resource curse, namely Nigeria, and one that exemplifies the potential of avoiding it, or overcoming its initially harmful effects, namely Botswana.

The predominant, yet by no means exclusive, resource curse material seems to be oil: some hold that "the resource curse…is more accurately a mineral curse, since these maladies are not caused by other kinds of natural resources, like forests, fresh water, or fertile cropland. Among minerals, petroleum – which accounts for more than 90% of the world's mineral trade – produces the largest problems for the greatest number of countries. The resource curse is overwhelmingly an oil curse" (Ross, 2012, p. 1). Fittingly, it is pointed out that "of Africa's fifty-five countries, fifty are either producing or exploring for oil" (Moss, Lambert and Majerowicz, 2015, p. 32).

Yet the curse can occur with any abundant resource, especially in the "extractive industries" that deal with "oil, gas, and other minerals" (Robinson, Torvik and Verdier, 2006, p. 448). Correspondingly, some of the other precious metals that can be extracted are gold and silver (Hilson, 2017, p. 229) or even less precious ones as tin in Bolivia (Mosley, 2017, p. 176; Saylor 2014, p. 210), or diamonds, iron, rutile and bauxite in Sierra Leone (Mosley, 2017, p. 26; World Bank, 2005, p. 306), but even agrarian products such as soy (see Farthing and Kohl, 2014, p. 84), rubber in Malaysia, tea in Sri Lanka, or sugar in Cuba (Mosley, 2017, p. 4). Hence considering the curse only as a matter of oil seems overly restrictive and limiting for reflection and solution, also in view of ongoing and future discoveries and extractions of these and other valuable materials. Finally, even the most restrictive literature admits that "energy importers cannot circumvent the oil curse; they must help solve it" (Ross, 2012, p. 3). Hence it seems reasonable to apply the insights gained from research on the resource curse also to forms of renewable energy, such as direct and indirect (photoelectric) solar, hydroelectric, wind, geothermal or biomass energy.

2.2. Paradox: Predicted Blessing Becomes Blight

The literature names the anticipation that a country's resource wealth should lead to its well-being "resource blessing" (Esanov, Raiser and Buiter, 2006, p. 52; Gilberthorpe and Papyrakis, 2015, p. 384; Van der Ploeg, 2001, p. 366) or "catalyst to prosperity" (Collier, 2008, p. 38). Until the 1960s, this anticipation went hand in hand with expectations of resource-blessed countries to follow "resource-based development" patterns, connected to capitalization, technological and social investment, innovation, and development (Barbier, 2005, p. 2; similarly Boianovsky, 2012, p. 60), and potentially also benefitting

from economic expansion or alleviation of credit constraints (Collier, 2008, p. 38; Gilberthorpe and Papyrakis, 2015, pp. 382, 384). Historical examples invoked were the times of European and American industrial expansion, large-scale emigration, as well as colonial export and exploitation patterns between 1870 and 1913, resulting in a global "core" and "periphery" (Barbier, 2005, p. 81-83). This prediction and promise was further reinforced by instances of countries that fulfilled that promise, such as oil-revenue-rich Arabian and Gulf countries like Saudi Arabia and Kuwait (Collier, 2008, p. 38). For the 21st century, Sachs (2007, p. 173) expresses the expectation of a resource blessing for oil thus:

> "Oil is…an enormously valuable resource, that can bring enormous economic benefits to an economy…Oil-rich states have actually tended to outperform their neighbors which lack oil…[and] region by region, tend to have higher per capita income levels (in purchasing power terms). This often corresponds to higher levels of private consumption as well. In most other categories of well-being – life expectancies, child mortality rates, electricity use per capita, paved roads – oil producers are better off than their oil poor counterparts".

However, the resource curse has an inherent "contradiction" (Bresser-Pereira, Oreiro and Marconi, 2015, p. 70) that some authors name the "paradox of plenty" (taken from Karl's 1997 book title; Hanson, 2017, p. 40; Kelbert, 2011, p. 188; Lay and Mahmoud, 2005, p. 46; Roberts, 2017, p. 68), and that often foils that expected blessing, so that the resource blessing translating into a country's well-being is now considered by the literature as the exception, rather than the rule (Collier, 2008, p. 38). As examples from the last decade of the 20th century still being referred to, "among the larger newly industrializing countries, the biggest countries like China, India, Brazil and Mexico have slower progress with industrial diversification than the smaller resource-deficient countries like [South] Korea and Taiwan (Auty 1993, p. 2; similarly Moss, Lambert and Majerowicz, 2015, p. 33). Sachs, too, reevaluates his optimistic view of oil-rich countries:

> "The 'curse' is real…economic performance of oil economies has fallen far short of potential, and sometimes disastrously so. Oil earnings have rarely lived up to the plausible expectation that they should be a stimulus to long-term economic development. Many oil-rich countries experienced declines in per capita income between 1970 and 2000, and quite a few fell into deep debt crises" (2007, p. 174).

2.3. From Curse over Dependency to Trap

A country thus afflicted by the resource curse might also find itself in a "resource-dependency" (Barbier, 2005, p. 9; Esanov, Raiser and Buiter, 2006, p.

52; Johansson, Patwardhan, Nakicenovic and Gomez-Echeverri, 2012, p. 358), which can grow into a fully-fledged "natural resource trap" that makes it even harder to escape or grow out of it (Barbier, 2005, p. 9; Collier, 2008, pp. 38, 50; De Sousa, 2013, p. 64; Esanov, Raiser and Buiter, 2006, p. 52; Mosley, 2017, p. 4; Ness, 2016, p. 502; Watts and Peluso, 2014, p. 192). As Sachs (2007, p. 177) points out: "The poverty trap works as follows…Core public goods…are generally deficient, sometimes so much so that their absence impedes investments by the private sector…The profitability of private investment depends on complementary public investments (in key infrastructure, health, education, etc.). Public investments, however, require budgetary outlays. In impoverished countries, those outlays are constrained by poverty itself…Thus, poverty leads to underinvestments in public goods, which in turn lead to under-investments in the sector, and poverty continues or worsens (for example, because of continued population growth). The causal chain, and vicious circle, is therefore as follows: Poverty → Lack of public finance → Lack of public goods → Lack of Private investment → Poverty" (similarly Johansson, Patwardhan, Nakicenovic and Gomez-Echeverri, 2012, p. 358).

2.4. Macroeconomic Explanations for the Resource Curse

2.4.1. Complex and Concise Explanations

Macroeconomic literature tends to explain the resource curse either by concisely bundling together complex connections, or by focusing on a few single reasons and theories. As an example of the former way, some authors provide sweeping explanations, but do not specify particular countries:

> "When a country is poor, its society is unstructured, its institutions are weak, its public moral standards are low; and its corrupt elites…will capture some of the Ricardian rents through rent-seeking…The poorer the country is, and the more exposed it is to global capitalism, the more disorganized is its society, the weaker are its institutions, the more difficult it is to govern…Among poor countries, the richer a country is in mineral resources, the more likely it is to be at the mercy of corruption and civil wars…The fundamental cause of political instability, civil war, corruption, and the lack of democracy in poor countries is that…the economic surplus is appropriated not in the market, through profits, but in politics, through control of the state" (Bresser-Pereira, Oreiro and Marconi, 2015, pp. 71-72; similarly Moss, Lambert and Majerowicz, 2015, pp. vii, 33).

Some link environmental concerns to the country example of Nigeria and the resource of oil:

> "Countries such as Nigeria have found that…misdirected oil revenues can lead to massive corruption and waste. Other sectors of the economy are starved of investment and resources, as available resources go primarily toward oil production. And because oil is an exhaustible resource…overexploitation of natural resources can lead both to environmental degradation and to economic distortion" (Goodwin, Harris, Nelson, Roach and Torras, 2014, p. 395; similarly Ross, 2012, p. 6; Sala-i-Martin and Subramanian, 2013, 570).

Finally, some authors classify countries according to positive to negative effects of income levels and policies, insistently highlighting some key functions, roles and responsibilities of national institutions (which is an aspect that will be discussed in depth further below):

> "Some of the highest-income countries in the world [Hong Kong, Singapore, Japan] have few natural resources…Conversely, many resource-rich countries such as Nigeria, Venezuela, and Russia have both low income levels and poor records of economic growth. These observations highlight the importance of institutions. Countries that follow sound policies are able to import resources required for growth and prosperity. Without sound institutions and policies, however, resource-rich countries are generally unable to sustain strong growth and achieve high levels of income. Moreover, abundant resources can often undermine the incentive to adopt sound institutions" (Gwartney, Stroup, Sobel and Macpherson, 2016: 334; similarly Akacem and Cachanosky, 2017, pp. 2-3, 7-8; Lay and Mahmoud, 2005, pp. 48, 51; Roberts, 2017, p. 68; Robinson, Torvik and Verdier, 2006, p. 451).

2.4.2. Single-Cause Theories

As for the second way of macroeconomic explanations of the resource curse, below are several main and sub-theories discussed in more detail. To begin with, the "Resource Curse Hypothesis" holds that in afflicted low-to-middle income economies, a dependency mainly on natural resources is not a sufficiently strong motor of nation-wide economic stimulation and sustained growth (Barbier, 2005, p. 3), since any positive spillovers from locally exploited resources do not affect the national economy meaningfully and measurably enough. Aggravating this macroeconomic outcome internationally, any initially advantageous trade terms due to the country's comparative advantage based on the extracted resource deteriorates over time, since the price of the resource is bound to fall over time, thus deepening the income gap between extracting country and its developed trade partners. In the end, the country needs to export ever more of its resource, just to satisfy its import requirements (Gilberthorpe and Papyrakis, 2015, p. 383).

The "Open-Access Exploitation Hypothesis" argues that while the resource might be rich and full of potential, poor infrastructures of access and exploitation, such as over rights, benefits and distributions, might turn the initial advantage of the resource on its head, its mismanagement leading to poorer macroeconomic and social welfare and the country's international comparative standing (Barbier, 2005, p. 9; Esanov, Raiser and Buiter, 2006, p. 52;).

The "Factor Endowment" or "Resource Endowment" hypothesis takes this explanation to its logical conclusion, suggesting that it is exactly the resource wealth that causes problems for its host countries, due to their lower socioeconomic development (expressed for instance in their need to focus exclusively on their main resource, or their educational levels lagging behind the global average), or due to national inequalities and social injustices, which lock these countries in the mentioned resource dependencies, and prevent them from growing and developing out of those predicaments (Johansson, Patwardhan, Nakicenovic and Gomez-Echeverri, 2012, p. 358).

The earlier mentioned "Dutch Disease Theory" can itself be divided into three explanatory sub-models or hypotheses: the "Resource Movement Effect" holds that secondary and tertiary production factors and activities, such as of labor and capital, shift towards the primary resource sector, even if that movement is less dramatic in developing countries that are already capital-weak and labor-rich (Gilberthorpe and Papyrakis, 2015, p. 383).

As a second sub-model of the Dutch Disease, the "Spending Effect" focuses on the inflationary pressures on the national economy that result from the initial abundance of income from extracting the primary resource. As this income rises and floods the national economy, the competitiveness of other sectors declines, changing the national economic structure and deteriorating the non-primary trade sectors, thus undermining the macroeconomic development (Gilberthorpe and Papyrakis, 2015, p. 383).

According to a third sub-model of the Dutch Disease, which this author calls "Export-Import Competition Theory", resource exports cause a rise in the country's exports, appreciating its currency, with a double detrimental effect on the country's trade balance: on the one hand, it makes the country's other export articles and activities less competitive on the world market; on the other hand, it also makes the country's imports more expensive, since all other countries now need to pay this country's products more expensively in its appreciated currency (Espinoza, Fayad and Prasad, 2013, p. 6; similarly El Serafy, 2013, p. 348). The literature gives the example of Nigeria in the 1970s, where the profits from recently discovered oil made its other staple products, such as cocoa and peanuts, more expensive for foreign importers, thus first lessening and then collapsing the lucrative trade of these two products (Collier, 2008, pp. 39, 121).

According to a macroeconomic explanation which this author labels "Reduced Savings Rate Theory", resource abundance and the spending effect lead to reduced savings and investment rates, due to the nationwide impression of the people that savings and investments are less decisive for providing current and protecting their future income levels (see Gilberthorpe and Papyrakis, 2015, p. 383).

Similarly, a macroeconomic explanation which this author calls "Debt Overhang Theory" describes the practice of resource-rich countries to use their debts as collaterals for their incurred debts on the world market, where the results of such "boom-based borrowing" often are national economic crises, such as 1975 in Indonesia or 1982 in Mexico (Gilberthorpe and Papyrakis, 2015, p. 383).

According to a last macroeconomic explanation, which this author calls "See-Saw-Theory", the volatility of world market primary resource prices leads to a macroeconomic see-saw effect for the country, besides investor insecurity, difficulties to create stimulating industrial regulatory frameworks, and governmental challenges to impose financial discipline and to secure sustainable fiscal policies (Gilberthorpe and Papyrakis, 2015, p. 383).

Finally, some authors bundle up several of the above explanatory hypotheses, theories or models, and suggest a "vicious cycle" of ever increasing resource riches resulting in ever diminishing economic development returns (Barbier, 2005, p. 3-4). Explanatory theories, models and explanations usually stop here. This research, after outlining its methodology, will go further, by investigating the resource curse with several sociopolitical and macroeconomic challenges it poses, and then by developing and evaluating a range of suggestions for its solution.

3. Research Methodology

3.1. Multidisciplinary Framework of Analysis

Some recent literature on the resource curse stresses the need for multidisciplinary and collaborative methodological approaches on the macroeconomic level:

> "There is…the need for a more holistic cross-scale framework of analysis. The scale of fragmentation of research on the resource curse largely overlaps with a disciplinary basis. The macro and meso resource curse is mainly dominated by economists and political scientists…The insights from all these different disciplinary approaches are naturally invaluable to understanding how the resource curse might (or might not) materialise at different levels...There is a

> need to approach the resource curse from a more collaborative disciplinary angle, which will permit the defragmentation of the literature…across…disciplinary lines and foster the development of a more socially aware…policy that shows commitment to sound macroeconomic performance as well as the safeguarding of social and cultural capital" (Gilberthorpe and Papyrakis, 2015, p. 388).

3.2. Qualitative Research Methods

While some of the literature keeps asking for more research on the resource curse with quantitative methods (Van der Ploeg and Poelhekke, 2017, pp. 205-211), others point out that there are even more and bigger qualitative lacunae (Gilberthorpe and Papyrakis, 2015, pp. 381-386). Calling for interdisciplinary, collaborative and qualitative research approaches to defragment and unify the literature, macroeconomic literature explicitly names the branches of economics, political science, sociology, anthropology, international relations, and psychology) and the diversity of resource sectors, such as mining, oil, agriculture, and energy (Collier, 2017, pp. 217-219; Gilberthorpe, 2017, pp. 186-188; Gilberthorpe and Papyrakis, 2015, p. 381-382).

3.3. Sociopolitical and Macroeconomic Analysis

Our multidisciplinary approach combines a sociopolitical and socioeconomic scope with a macroeconomic analytical focus. The methodological contribution of this research is thus its macroeconomic angle on specific sociopolitical and socioeconomic challenges. Hence below we will continue to investigate the resource curse, namely by analyzing three of the most incisive sociopolitical, socioeconomic and macroeconomic challenges, and then by analyzing and evaluating on the one hand four sociopolitical and socioeconomic and on the other hand seven macroeconomic solution suggestions, before concluding with our recommendations for the conceptually and practically most viable ones.

4. Analysis and Discussion

4.1. Sociopolitical and Macroeconomic Challenges

4.1.1. Challenge 1: The Resource Curse Undermining Democracy

Political economists suggest that resource revenues tend to worsen political governance. For some, the key problem is that the resource curse destabilizes or damages democracy: while "resource-rich and policy-poor" (Collier, 2008, p. 178) countries are arguably those that are most in need of democratic structures

for a fair distribution of their riches and revenues, often the opposite is true, as resources, exemplified by oil, tend to reduce the probability of a democracy, and instead raise those of an autocracy. The main reasons are that those in power, to remain there, often misuse resources by replacing taxes with resource rents, reducing internal accountability, and raising spending on internal security and political patronage (Gilberthorpe and Papyrakis, 2015, pp. 384-385; Lay and Mahmoud, 2005, p. 48; Ross, 2012, pp. 5-6, 11).

Hence the occurrence of resources perverts precisely those democratic processes that are designed to benefit the people and the public, such as nation-wide election campaigns and public service deliveries: campaigns can now increasingly be influenced by bribing key public opinion leaders, and public services increasingly be suspended in favor of private patronage and clientelism, both of which, cynically but factually, are more cost-effective measures of securing power and influence. All this spells out the conditions and circumstances of autocracy. It is especially pointed out that an increase in resources reduces the need to tax, and with that the desire of the populace to monitor how their taxes are spend for them and their compatriots (Collier, 2008, p. 42-46). Ironically, replacing resource-rich countries' autocratic with democratic structures alone might not help, as the now enabled electoral competition is not yet checked and balanced by legal and institutional restraints (Collier, 2008, p. 51).

4.1.2. Challenge 2: Macroeconomic Institutional Issues

Some authors suggest that natural resource wealth is counter-productive for good institutional development, as it rather leads to individual, short-term profit gain, nepotism and corruption. Resources, rather than being invested in national development, serve to extract rent from them, as is often the case when mining minerals. Local, national or international mining companies then work together with the government and focus on each other's possible incentives, instead of nationally beneficial distribution procedures of the extracted products and the expected profits. This process might include the whole political elite, with entire branches of public goods and finances being mismanaged or misallocated (Gilberthorpe and Papyrakis, 2015, p. 384; similarly Ross, 2012, p. 6).

Others link "boom-based" borrowing or investment cycles with institutional criticism: during resource-related price booms, governments are often tempted by the influx of money to rise their spending ceilings, which over time destroys public spending's rationality and control. During the inevitably following recessions, those excessive spending habits are even more difficult to reign in. Later inevitable spending cuts have less effect on the superfluous and wasteful sectors (for example the overemployment of diplomatic services, or national ceremonies) but rather on the socioeconomically vital ones (such as education,

transport, and other national key infrastructures). Even in worst-case scenarios of "boom-bust cycles" regularly shaking the national economy, lessons are still not properly learned and applied for the next cycle. As an example, when the world oil price plummeted in 1986, Nigeria (which during the early 1980s oil boom borrowed and spent at large, especially on corruption-laden projects) had ordinary citizens' living standards cut in half (Collier, 2008, pp. 40-41; Robinson, Torvik and Verdier, 2006, pp. 447, 450).

4.1.3. Challenge 3: Conflict and Violence

The literature relates countries' natural resources to internal conflicts or violence. Geographic location matters; for instance, on-shore oil has been observed to be more conducive to civil conflict than off-shore extraction, with low-income areas being more volatile than regions around the national income average (Gilberthorpe and Papyrakis, 2015, p. 385). The importance of ethnic diversity for resource-rich countries divides the literature: some sustain that ethnically rather heterogeneous countries are more endangered by, and prone to internal conflict than those that are ethnically more homogeneous (Gilberthorpe and Papyrakis, 2015, p. 385).

Others maintain that ethnic diversity itself is a comparatively weak indicator for the conflict potential of resource-rich countries, yet even they affirm that ethnic diversity is more problematic in autocratic countries, since the more diversity, the weaker or smaller the support base tends to be for autocrats, who typically depend on their own ethnic support groups, which in turn makes clashes between ethnic support bases both more frequent and violent. As an example given, Saddam Hussein's Baath Party, mostly composed of Sunni Muslims, came to dominate the majority of Iraq's Shiite Muslims and Kurds at the time (Collier, 2008, p. 49; similarly Robinson, Torvik and Verdier, 2006, p. 461).

4.2. Sociopolitical and Socioeconomic Solution Suggestions

4.2.1. Solution 1: Strengthening Institutions and Public Spending

The importance of institutions is stressed with data in the context of oil-rich Gulf states for the two decades from 1990 to 2009, combining recommendations for strong institutions with lower governmental and higher public services spending: "The poor quality of institutions and the large size of government consumption, both of which are possible symptoms of a resource curse, could explain the disappointing TFP [total factor productivity] growth" (Espinoza, Fayad and Prasad, 2013, p. 15).

Some authors connect institutional strength to the growth of services sectors and the GDP (gross domestic product), and appeal for investments in education to

foster national institutions and diversification. They show that while the service sectors in the Arab region have grown faster than the average GDP in the decade between 2000 and 2010, and slightly faster in the GCC (Gulf Cooperation Council) than in the rest of the Arab region (namely by 5.4%), those in East Asia and South Asia have grown at almost the double annual rate (by 9.5% and 8.3%, respectively). Based on this data, they compare the examples of Algeria, Saudi Arabia, Syria and Yemen with the positive example of Botswana, and conclude that resource-rich countries should strengthen their institutions, to prevent rent-seeking from their resource, and to diversify from it (Akacem and Cachanosky, 2017, pp. 7-8; Diop and de Melo, 2016, pp. 84-85, 100-101; Kararach and Odhiambo, 2017, p. 148; Lay and Mahmoud, 2005, p. 48; Snowdon and Vane, 2005, p. 654).

4.2.2. Solution 2: Investment in the Renewable Energy Sector

Sachs (2007: 179-180) suggests investing in alternative or renewable energy sources, above all for countries whose primary resource is still oil. He gives the country example of Chad, which on the one hand exports its limited oil reserves, on the other hand depends on the burning of biomass for its own energy needs.

This suggestion might work well for countries whose oil wealth provides them with capacities to invest in alternative energy forms, such as the United Arab Emirates. However, even against the background of this country's almost daily reports in its main national newspapers (such as *The National* or the *Khaleej Times*) about alternative energy plants or projects being opened or endorsed, its real policy implementations and scientific efficiency percentages concede the scientific fact that renewable energy sources, such as solar energy, still need time and scientific advancement to be full energetic and economic substitutes.

4.2.3. Solution 3: Democratic Restraints, or Checks and Balances

Some hold that sufficiently strong constraints on political misuse of power, above all, allow democracies to succeed both politically and economically. Such democratic checks and balances are for instance the rule of law, the separation of powers, freedom of expression, a free press, or an independent judiciary. Such political restraints or checks and balances are even more important in ethnically diverse societies, where electoral fair competition even more likely to be abandoned in favor of autocrats' own ethnic support groups. As an example, in 1979 ethnically diverse Nigeria had just returned from a decade of military dictatorship to democratic civilian rule, but since large-scale vote bribery had left it cash-depleted, it also reverted to unchecked political patronage and re-awarded public contracts at more than four times the original cost. By contrast, in 2003, after having again returned from fifteen years of military rule, it introduced an economically measurable requirement of checks and balances,

namely that public investment projects had to be tendered competitively, which immediately reduced their costs by 40% (Collier, 2008, pp. 46-50).

Two countries are often given as counter-examples of the resource curse, in that they have avoided its negative impacts: the first, Botswana, required that all public investment projects promised a minimum rate of return, evidenced by surplus funds accumulated in foreign assets; today it represents a very different pathway in terms of development studies and realities (Collier, 2008, p. 50; Kararach and Odhiambo, 2017, p. 148; Snowdon and Vane, 2005, p. 654). In Norway, oil-fueled growth did not disable or dilute democratic processes and institutions, but supported and strengthened them. Norway succeeded in terms of resource riches as well as checks and balances because it had acquired the checks before its oil wealth: democratic-political restraints and resource revenues fueled each other, resulting in the country's highest per-capita living standard worldwide (Collier, 2008, p. 50-51). Additionally, Norway was favored by its advanced infrastructure and educational system already being in place, and used its resource income to advance social and long-term financial services, for example pension accounts (Farthing and Kohl, 2014, p. 84; Sachs, 2007, pp. 179, 191).

4.2.4. Solution 4: Supporting Interventions and Empowering Charters

Recent literature considers altruistic military interventions not only in case of full-blown conflicts, but also when countries need support as their resource richness exposes them to internal conflict and aggression. The legal bases for such interventions would be internationally stipulated and nationally implemented rules and regulations. In practice, this would amount to a "charter for resource wealth", improving measures for certain industrial sectors, such as the Extractive Industries Transparency Initiative (Collier, 2008, p. 178). According to its homepage (https://eiti.org/), EITI "is a standard by which information on the oil, gas and mining industries is published…not a prescription for governance of the extractive sector, rather a tool that informs the way the sector is governed". Such international charters would be double-pronged: legitimizing and motivating advanced countries' interventions on behalf of less developed ones, but also providing reformers within those countries with tools, instruments and a reference framework when facing opposition, oppression or lack of appropriate governance, to rally support around their own policy proposals. While such charters might meet powerful resistance, and recent political and economic attempts at democratically reforming countries such as Iraq were mostly considered a failure, such legal frameworks and interventions would empower reform movements at least within countries of the world's "bottom billion" (Collier, 2008, p. 182; similarly with respect to EITI: Papyrakis, 2017, pp. 175-179; Papyrakis, Rieger and Gilberthorpe, 2017, pp. 295-298).

4.3. Macroeconomic Solution Suggestions

4.3.1. Solution 1: Cash Transfers

The technically simplest and most straightforward solution is to channel a country's resource rents directly to its population via "cash transfers". The literature (Moss, Lambert and Majerowicz, 2015, pp. 10-19) argues for this policy measure in that cash transfers allegedly:

1) Reduce chronic poverty and inequality,
2) Improve nutrition,
3) Increase school attendance and health clinic visits,
4) Ease disaster recovery,
5) Improve the social contract, and
6) Have a multiplier effect due to clear objectives and only provisional funding.

Yet others mount equally numerous and impressive arguments against the workability of cash transfers (Sachs, 20007, pp. 189-190), namely that:

1) Private investments cannot bear the load or the responsibility for public sector investments, for example basic infrastructure provisions for education, health, transport and power;
2) In countries where direct cash payments work, such as Brazil and Mexico, the corresponding most important elements of a basic infrastructure are already in place;
3) Even where cash payments work well, they are conditional to benefitting households showing sound educational and economic practices.

The latter opinion seems preferable, since cash payments would first need to overcome the political and practical challenges of calculating and allotting them fairly, after which their disbursement would still too closely resemble those earlier criticized autocratic financing procedures, with which they can be too easily confused, and correspondingly misused.

4.3.2. Solution 2: Good Governance and Fair Wealth Distribution

Good governance is considered such an important principle that some re-label the resource curse a "leadership curse", attributing the real problem to the good "governance of natural resources" (Al Ahmad Al Sabah, 2013, p. 49). Others define the root of the problem thus: "Political leaders who are more secure in office will be more likely to restrain spending during economic booms; leaders who are less secure will exercise less restraint" (Ross, 2012, pp. 216-217). One of the most recurrent demands is that of transparency in the use of resources and their revenues (Ross, 2012, p. 14). Sachs (2007, pp. 192-193) outlines key

principles of governmental, active commitment to good governance as fair, long-term, sustainable and transparent wealth distribution, namely:

1) Correctly assessing national income and fiscal revenues from the resource;
2) Publicizing and regularly revising the expected income flows;
3) Publicly explaining the specific fiscal flows associated with the resource earnings;
4) Transparently managing the high risks of resource price volatility and production;
5) Basing the budget on cautious assessments of future resource world prices;
6) Cautiously pledging future resource revenues to secure current borrowing;
7) Converting limited and depleting resources into long-term sustainable social benefits; and
8) Investing the resource earnings for long-term growth across generations.

4.3.3. Solution 3: Careful Macroeconomic Management

Focusing on long-term macroeconomic management of resource benefits, Sachs (2007, pp. 174-175) asks that the resulting income should enable the country to:

1) Improve living standards by enabling more public and private consumption;
2) Finance higher levels of investment, from resource income and resulting borrowings; and
3) Finance other core public goods, for instance infrastructure such as roads or power networks, or international assets for future pension payments.

Especially for investment and trade, Sachs (2007, pp. 173, 175-177) advises macroeconomic long-term strategy, stability and growth; across countries and resource sectors, resource earnings in low-income countries should be turned into, or at least assist:

1) Public goods, rather than increasing private consumption;
2) Public investments, based on an overall sound macroeconomic strategy;
3) Public investments in infrastructure, health, education, social security, and education; and
4) Macroeconomic stability, by ensuring overall price stability and avoiding abrupt spending cuts due to sudden worsening of credit terms.

4.3.4. Solution 4: Public Sector Investment for Private Sector Growth

Finally, Sachs (2007, p. 178) suggests using resource revenues for public sector investments that enable and stimulate private sector investments and gains. Benefitting the entire national economy, the resulting economic activity should:

1) Stimulate private investment and raises incomes;
2) Improve budgetary resources including non-oil income;

3) Increase chances to finance public goods through the overall economic spur; and
4) Compensate for losses in case of depletion of the resource, or a decline in its world price.

4.3.5. Solution 5: Foreign Development Aid and Trade Liberalization

Some suggest that foreign development aid should be used to help above all the *export* sector, such as by improving a country's sea port infrastructure. Such a measure would assist the country's exports (via the now for instance refurbished or modernized port) to become cheaper abroad and thus globally more competitive (Collier, 2008, p. 121). Correspondingly, foreign development aid could be used to focus specifically on the country's *import* sector, firstly because any financial aid automatically increases the demand and the ability to pay for much-needed imports, and secondly because, in the longer run, it also increases demands for, and expectations of such imports among both the national population and importers (Collier, 2008, p. 122). These two measures should be accompanied by trade liberalization in form of lower taxes imposed on imports, since only then the country's higher demand for those imports can avoid a concomitant appreciation of the country's exchange rate, which would be the consequence of high trade barriers to be paid for by foreign traders to bring their goods into the country (Collier, 2008, p. 163).

4.3.6. Solution 6: Export Diversification and Protectionist Trade Policy

Export diversification has long since been considered a key advice for a resource-rich but else poor country, especially when its resources center on one or two main products or "cash crops". Beyond this classical literature advice, such export diversification is now being recommended by recent literature hand in hand with a trade policy that provides that country, at least initially, with protection against developed nations, to break into global markets. While this recalls the "infant industry argument" of international trade, it seems to go against free trade principles. The difference is that such protectionist measures would not be taken unilaterally by the resource-rich country against a global free market, but in agreement and unison with the global trade community, as they are only supposed to encourage the country to take its first steps towards later full-fledged global competition (see, in less detail than here, Collier, 2008, p. 183).

4.3.7. Solution 7: Setting the Exchange Rate at the Industrial Equilibrium

Some of the most recent and sophisticated voices persistently reiterate their suggestion to avoid resource-rich countries' currency appreciations because of

their high export revenues: "The overevaluation of the exchange rate…is the fundamental obstacle that poor countries face in industrializing and developing" (Bresser-Pereira, Oreiro and Marconi, 2015, pp. 70, 71; similarly Boianovsky, 2012, p. 59). Yet international monetary policy over some of the recent years has demonstrated that even periodically under- or overvalued currencies, for example according to IMF External Sector Reports, have done well on the world market, albeit and arguably in part for different sets of reasons that might not directly apply to resource-rich but otherwise poor countries.

5. Conclusions

The World Bank summarized for a long-term study on global economic growth: "Successful management of a natural resource curse calls for a combination of policies and institutions. On the economic policy front…on the institutional front" (2005, p. 307). It seems that the literature, even after the quoted "two decades of intensive research", still provides isolated explanatory models, and equally isolated sociopolitical, socioeconomic and macroeconomic solution ideas. Missing are multipronged suggestions, and internationally coordinated and supervised action plans. This is even more surprising given that developed countries benefit manifold from improving economic standards and living conditions of less developed ones, just to mention gaining new trade partners and networks, or widening collaboration and influence spheres, or reducing own development aid burdens. The methodological contribution of this research, namely its multidisciplinary approach, thus also seems to correspond best to the problem's theoretical and practical multifaceted nature.

Against this background, the most promising solutions enable countries afflicted by the resource curse the greatest amount of internal autonomy and development with the greatest degree of external independence and collaboration. Thus the first sociopolitical and socioeconomic suggestion, of strengthening domestic institutions, is preferable to the fourth, outside military intervention, however benevolently intended. While the second suggestion, investments in renewable energy, is laudable for its planetary environmental care and sensitivity towards industrialization, it also presupposes the existence of strong institutions in the first place, which can decide and then act upon corresponding investments and projects. Hence unconditional support for the first and third solution suggestions, namely adding political restraints, or democratic checks and balances, promises the most solid foundation, on which the second suggestion, alternative energy, can be built if technically and financially feasible, whereas military interventions should be *ultima ratio*, only to be considered if the other three have failed.

Macroeconomically, the second and fourth solution suggestions, namely of good governance and fair wealth distribution as well as public sector investment for private sector growth, seem to link up with the sociopolitical solution

suggestions of strong institutions, public spending, and of democratic restraints and checks and balances: they can be imagined as forming a four-point square of legal, political, social and economic pillars within which an environment of trust for resource uses and profits, as well as national development strategies and long-term investments can grow and foster. The third macroeconomic solution suggestion, of careful macroeconomic management, could be an overarching principle to maintain the shape of that square, and those pillars in solid position.

On that basis, the fifth and sixth macroeconomic solution suggestions can supplement that core: foreign development aid is to be used preferably in merely complementary (additional) and subsidiary (secondary) mode, to be done without in the long run. Similarly to renewable energy investment, export diversification can be recommended once a country has reached levels of resource diversity and depth that allow it to compete on the world market without protectionist barriers. Finally, setting the exchange rate at the industrial equilibrium, although by many postulated as the decisive measure, seems rather the icing on the cake: with other solutions in place, it would almost automatically, and given the connectivity of the global financial markets, transparently follow the overarching request for honest and politically, economically and socially efficient macroeconomic management.

References

Akacem, M., and N. Cachanosky (2017). "The Myth of the Resource Curse: A Case Study of Algeria". *The Journal of Private Enterprise*, 32(2): 1-15.

Al Ahmad Al Sabah, M. J. (2013). *Resource Curse Reduction through Innovation – A Blessing for All – The Case of Kuwait*. Newcastle upon Tyne: Cambridge Scholars Publishing.

Auty, R. M. (1993). *Sustaining Development in Mineral Economies: The Resource Curse Thesis*. London and New York: Routledge.

Auty, R. M. (2017). "Natural Resources and Small Island Economies: Mauritius and Trinidad and Tobago". *The Journal of Development Studies*, 53(2): 264-277.

Barbier, E. B. (2005). *Natural Resources and Economic Development*. Cambridge and New York: Cambridge University Press.

Boianovsky, M. (2012). "A Note on the Early History of the 'Dutch Disease' Concept: From Cairnes to Wicksell and Furtado". In G. Erreygers and M. Vermeire (eds.), *Macroeconomics and Beyond: Essays in Honor of Wim Meusen* (pp. 59-65). Antwerpen and Apeldoorn: Garant Publishers.

Bresser-Pereira, L. C., J. L. Oreiro, and N. Marconi (2015). *Developmental Macroeconomics: New Developmentalism as a Growth Strategy*. London and New York: Routledge.

Busia, K., and C. Akong (2017). "The African Mining Vision: Perspectives on Mineral Resource Development in Africa". *The Journal of Sustainable Development Law and Policy*, 8(1): 145-192.

Collier, P. (2008). *The Bottom Billion: Why the Poorest Countries are Failing and What Can be Done About It*. Oxford and New York: Oxford University Press.

Collier, P. (2017). "The Institutional and Psychological Foundations of Natural Resource Policies". *The Journal of Development Studies*, 53(2): 217-228.

De Sousa, I. (2013). "Environmental Security and the Resource Curse". In R. Floyd and R. A. Matthew (eds.), *Environmental Security: Approaches and Issues* (pp. 64-81). London and New York: Routledge.

Diop, N., and J. D. Melo (2016). "Dutch Disease in the Services Sector: Evidence from Oil Exporters in the Arab Region". In I. Elbadawi and H. Selim (eds.), *Understanding and Avoiding the Oil Curse in Resource-Rich Arab Economies* (pp. 82-102). Cambridge and New York: Cambridge University Press.

Economist, The (1977). "The Dutch Disease". *The Economist*, 26 November 1977, pp. 82-83.

El Serafy, S. (2013). *Macroeconomics and the Environment: Essays on Green Accounting*. Cheltenham, United Kingdom and Northampton, Massachusetts: Edward Elgar Publishing.

Esanov, A., M. Raiser, and W. Buiter (2006). "Nature's Blessing or Nature's Curse? The Political Economy of Transition in Resource-Based Economies". In R. Auty and I. D. Soysa (eds.), *Energy, Wealth and Governance in the Caucasus Central Asia* (pp. 39-56). London and New York: Routledge.

Espinoza, R., G. Fayad, and A. Prasad (2013). *The Macroeconomics of the Arab States of the Gulf*. Oxford: Oxford University Press.

Farthing, L. C., and B. Kohl (2014). *Evo's Bolivia: Continuity and Change*. Austin: University of Texas Press.

Frankopan, P. (2015). *The Silk Roads: A New History of the World*. London, Oxford and New York: Bloomsbury Publishing.

Gilberthorpe, E. (2017). "The Anthropology of Extraction: Critical Perspectives on the Resource Curse". *The Journal of Development Studies*, 53(2): 186-204.

Gilberthorpe, E., and E. Papyrakis (2015). "The Extractive Industries and Development: The Resource Curse at the Micro, Meso and Macro Levels". *The Extractive Industries and Society* 2, 381-390.

Goodwin, N., J. Harris, J. A. Nelson, B. Roach, and M. Torras (2014). *Macroeconomics in Context*. 2nd edition, London and New York: Routledge.

Gwartney, J. D., R. L. Stroup, R. S. Sobel, and D. A. Macpherson (2016). *Macroeconomics: Private and Public Choice*. 16th edition, Boston: Cengage Learning.

Hanson, K. T. (2017). "Capacity Development for Natural Resource Management: Findings from the 2013 Africa Capacity Indicators Report". In H. G. Besada (ed.), *Governing Natural Resources for Africa's Development* (pp. 39-63). London and New York: Routledge.

Hilson, G. (2017). "Guyana Gold: A Unique Resource Curse?" *The Journal of Development Studies*, 53(2): 229-248.

Humphreys, M., J. D. Sachs, and J. E. Stiglitz (2007). "Introduction: What is the Problem with Natural Resource Wealth?" In M. Humphreys, J. D. Sachs, and J. E. Stiglitz (eds.), *Escaping the Resource Curse* (pp. 1-20). New York and Chichester: Columbia University Press.

Johansson, T. B., A. Patwardhan, N. Nakicenovic, and L. Gomez-Echeverri (eds.) (2012). *Global Energy Assessment: Toward a Sustainable Future*. Cambridge and New York: Cambridge University Press.

Kararach, G., and W. Odhiambo (2017). "Natural Resources, Volatility, and African Development Policy: Some Agenda for Action". In H. G. Besada (ed.), *Governing Natural Resources for Africa's Development* (pp. 137-155). London and New York: Routledge.

Karl, T. L. (1997). *The Paradox of Plenty: Oil Booms and Petro-States*. Berkeley, Los Angeles and London: University of California Press.

Kelbert, A. (2011). "Oil and Development in Sudan: A Natural Resource Curse? In F. Morady and İ. Şiriner (eds.), *Globalisation, Religion & Development*, (pp. 187-198). London: Ijopec Publication.

Lay, J., and T. O. Mahmoud (2005). "The Resource Curse at Work: A Cross-Country Perspective with a Focus on Africa". In M. Basedau and A. Mehler (eds.), *Resource Politics in Sub-Saharan Africa* (pp. 45-71). Hamburg: Institute for African Affairs.

Mosley, P. (2017). *Fiscal Policy and the Natural Resource Curse: How to Escape from the Poverty Trap*. London and New York: Routledge.

Moss, T., C. Lambert, and S. Majerowicz (2015). *Oil to Cash: Fighting the Resource Curse through Cash Transfers*. Washington, D.C.: Center for Global Development.

Ness, P. N. (2016). *Economic Growth and Sustainable Development*. 2nd edition, London and New York: Routledge.

Papyrakis, E. (2017). "The Resource Curse – What Have We Learned from Two Decades of Intensive Research: Introduction to the Special Issue". *The Journal of Development Studies*, 53(2): 175-185.

Papyrakis, E., M. Rieger, and E. Gilberthorpe (2017). "Corruption and the Extractive Industries Transparency Initiative". *The Journal of Development Studies*, 53(2): 295-309.

Pick, D. (2010). "Development Failure and the Resource Curse: The Case of Myanmar". *International Journal of Sociology and Social Policy*, 30(5/6): 267-279.

Roberts, C. W. J. (2017). "The Other Resource Curse: Extractives as Development Panacea". In H. G. Besada (ed.), *Governing Natural Resources for Africa's Development* (pp. 64-92). London and New York: Routledge.

Robinson, J. A., R. Torvik, and T. Verdier (2006). "Political Foundations of the Resource Curse". *Journal of Development Economics*, 79, 447-468.

Ross, M. L. (2012). *The Oil Curse: How Petroleum Wealth Shapes the Development of Nations*. Princeton and New York: Princeton University Press.

Sachs, J. D. (2007). "How to Handle the Macroeconomics of Oil Wealth". In M. Humphreys, J. D. Sachs, and J. E. Stiglitz (eds.), *Escaping the Resource Curse* (pp. 173-193). New York and Chichester: Columbia University Press.

Sala-i-Martin, X., and A. Subramanian (2013). "Addressing the Natural Resource Curse: An Illustration from Nigeria". *Journal of African Economies*, 22(4): 570-615.

Saylor, R. (2010). *State Building in Boom Times: Commodities and Coalitions in Latin American and Africa*. Oxford and New York: Oxford University Press.

Snowdon, B., and H. R. Vane (2005). *Modern Macroeconomics: Its Origins, Development and Current State*. Cheltenham, United Kingdom and Northampton, Massachusetts: Edward Elgar Publishing.

Van der Ploeg, F. (2011). "Natural Resource: Curse or Blessing?" *Journal of Economic Literature*, 49(2): 366-420.

Van der Ploeg, F., and S. Poelhekke (2017). "The Impact of Natural Resources: Survey of Recent Quantitative Evidence". *The Journal of Development Studies*, 53(2): 205-216.

Watts, M., and N. Peluso (2014). "Resource Violence". In C. Death (ed.), *Critical Environmental Politics* (pp. 184-197). London and New York: Routledge.

Whaley, J. (2009). "The Groningen Gas Field". *GeoExPro Magazine*, 6(4).

World Bank (2005). *Economic Growth in the 1990s: Learning from a Decade of Reform*. The World Bank: Washington DC.