

The Resource Curse – What Have we Learned from Two Decades of Intensive Research: Introduction to the Special Issue

Abstract

There has been increasing interest in the so-called ‘resource curse’, i.e. the tendency of resource-rich countries to underperform in several development outcomes. This has generated a mountain of (often contradictory) evidence leaving many floundering in the flood of information. The special issue compiles eight papers from some of the most prominent contributors to this literature, combining original research with critical reflection on the current stock of knowledge. The studies collectively emphasize the complexities and conditionalities of the ‘curse’ – its presence/intensity is largely context-specific, depending on the type of resources, socio-political institutions and linkages with the rest of the economy.

I. INTRODUCTION

There has been an increasing interest within the scientific and policy communities in the ‘resource curse’; that is, the tendency of resource rich (and mineral rich, in particular) economies to underperform in economic growth and other development outcomes. Academic interest has certainly been on the rise – a Google Scholar search shows that while there were only 13 scientific papers that explicitly referred to the so-called ‘resource curse’ in 1995, the number increased to 543 in 2005 and 2360 in 2015. This level of academic focus combined with greater awareness through media reporting has also influenced policy circles, as evident from the launching of several voluntary initiatives in recent years (such as the Extractive Industries Transparency Initiative (EITI), the Global Mining Initiative, the Responsible Mineral Development Initiative and the Kimberley Process Certification Scheme, just to name a few) that aim at improved transparency in the extractive sector and a more equitable and productive use of accrued rents.

Yet, after 20 years of intensive research and action, ‘the curse’ still lingers as a very real global problem, as evident from the multiple challenges many mineral-rich countries currently face. Mineral prices are highly volatile and their see-saw pattern often creates abrupt business cycles for mineral-dependent economies – oil rich Russia, Venezuela and Trinidad and Tobago have recently experienced severe economic contractions as a result of the plummeting oil prices. Saudi Arabia’s budget deficit soared to approximately \$100 billion (or 15 per cent of GDP) in 2015, prompting the kingdom to announce drastic cuts in fuel subsidies. In Brazil, the state-run oil giant Petrobras has been embroiled in a multi-billion corruption scandal since late-2014 with allegations that company funds were diverted to several politicians. Oil smuggling in Syria and Iraq has assisted the Islamic State to fuel its insurgency, with claims that the terrorist group has formed informal trading networks with other neighbouring countries.

Evidence on the impacts of mineral abundance/dependence on several development outcomes (economic growth, income levels, conflict, environmental quality, institutions/social capital, trade, debt and so forth) has been the subject of numerous studies in the last two decades (for recent reviews of the empirical literature, see Frankel, 2010; Gilberthorpe & Papyrakis, 2015; Ross, 2014). The evidence, though, has been far from conclusive, and in recent years there have been several studies disputing the universal existence of a resource curse (for example, see Brunnschweiler & Bulte, 2008; Cavalcanti, Mohaddes, & Raissi, 2011; Stijns, 2005, 2006). Nowadays, there is wider recognition that the resource curse is a much more complex phenomenon, the manifestation of which depends on several factors (for instance, on the type of natural resources, the way one measures their relative importance in an economy, the socio-political institutions in place and so forth).

As with any research field that produces such an abundance of information over a period of two decades, there is a need at a certain point in time to pause and critically reflect on what we have learned so far (and on the gaps that still remain to be filled). The objective of this special issue is, on the one hand, to provide a synthesis of the key messages that the scientific and policy community can draw based on the intensive research undertaken in the resource curse field. At the same time, it incorporates current original research in the field (with eight papers from some of the most prominent contributors to this literature), combined with a critical reflection on the current stock of knowledge. The studies included in the special issue reflect the current academic pluralism that characterises the resource curse literature with a mix of different methodological approaches (both quantitative and qualitative analyses) and a diverse geographical focus (Latin America, Sub-Saharan Africa, global). They also examine a broad range of resource curse mechanisms (Dutch Disease, rent-seeking, conflict and so forth) and for several types of natural resources (oil, gold, diamonds and so forth). The studies collectively emphasize the complexities and conditionalities of the ‘curse’ – its presence/intensity being largely context-specific,

depending on the type of resources, socio-political institutions and linkages with the rest of the economy.

The remainder of this Introduction to the Special Issue is organised as follows. Section II provides a critical review of the evolution of the resource curse literature and draws attention to some common issues emerging. Section III presents the eight papers of the special issue and their (theoretical/empirical) contribution to multiple research themes appearing in the resource curse literature. Section IV provides a synthesis of key results presented in the special issue and offers some general conclusions.

II. THE RESOURCE CURSE: THE EVOLUTION OF THE LITERATURE

While interest in the resource curse intensified over the last two decades, some earlier work of development economists already in the 1950s focused on the possible adversities of mineral-based development; and more explicitly on the deteriorating terms of trade between primary products and manufactured goods, commonly referred to as the Prebisch-Singer hypothesis (a trend that was reversed during the 2000's primary commodities boom – see Harvey, Kellard, Madsen, & Wohar, 2010 for a recent review of long-term historical trends, as well as the original papers by Prebisch, 1950 and Singer, 1950). Subsequently, several economics studies concentrated attention also on the crowding-out effect of minerals on a diverse range of activities that encourage economic and broader development. In the 1980s (following the two oil crises of the 1970s), there was considerable academic interest into the mechanisms that link mineral booms with limited economic diversification and trade openness – Dutch Disease models (first developed by Max Corden and Peter Neary) explored how positive income shocks triggered by mineral discoveries and changes in prices can create either inflationary pressures that decrease the competitiveness of exporting firms or relocate production factors towards the primary sectors away from other tradable industries (these are the so-

called Spending and Resource Movement effects; see the original papers by Corden & Neary, 1982 and Corden, 1984, as well as subsequent variants, e.g. Aizenman & Lee, 2010; Krugman, 1987; Matsuyama, 1992). These problems were thought to be further exacerbated by the fact that governments in mineral-rich nations often lacked far-sighted industrial competitive policies so as to protect entrenched interests in certain sectors (see Auty, 1994; Auty & Pontara, 2008; Murshed & Serino, 2011).

In the mid-1990s, two new studies re-ignited interest in the development impacts of natural resource abundance. In 1993, Richard Auty's book with a selection of case studies exploring macroeconomic policy in mineral-dependent economies largely popularised the 'resource curse' as a term (see Auty, 1993). In 1995, Jeffrey Sachs and Andrew Warner provided the first cross-country empirical study that demonstrated a negative link between mineral abundance (measured by either the share of primary exports or mineral production in GDP in 1971) and long-term economic growth (measured by changes in GDP per capita between 1970-1989), as well as estimations of the underlying crowding-out mechanisms (that is, the negative links between mineral resources and trade openness, investment in physical capital, bureaucratic efficiency and inflation; see Sachs and Warner, 1995). Subsequently, much of the focus concentrated on the negative impact of natural resources on long-term economic growth with additional explanations behind the curse being put forward. For example, some studies claimed that mineral resource abundance can be related to a debt overhang, with mineral rich states using their natural reserves as collateral for debt in international markets (see Manzano & Rigobon, 2001; Sarr, Bulte, Meisner, & Swanson, 2011). Other studies claimed that investment in human capital (proxied by the share of educational expenditure in GDP or school enrolment rates) is correlated negatively with measures of mineral abundance (given that the extractive industries are often less human-capital intensive; see Gylfason, 2001; Birdsall, Pinckney, & Sabot, 2001; Papyrakis & Gerlagh, 2004). There has also been evidence suggesting that the price volatility of natural resources traded in international markets probably also contributes to

macroeconomic fluctuations and uncertainty for foreign investors (see van der Ploeg & Poelhekke, 2009).

In more recent years, considerable interest grew towards the *institutional* explanations of the resource curse that look at how mineral resources can weaken pro-development institutions – for example, by fuelling rent-seeking and corruption (see Bulte, Damania, & Deacon, 2005; Isham, Woodcock, Pritchett, & Busby, 2005; Leite & Weidman, 2002), reducing democratic accountability (by providing authoritarian regimes with the means to prolong their stay in power either through oppression or targeted redistribution; see Jensen & Wantchekon, 2004; Ross, 2001, 2009) and encouraging violent conflict (Collier & Hoeffler 2005; Welsch, 2008; Wick & Bulte, 2006). Additionally, new analysis moved beyond growth impacts and instead explored negative links between mineral abundance and broader human development indices and sustainability indicators (for example, Bulte, Damania, & Deacon, 2005; Daniele, 2011; Atkinson, 2003; Dietz, Neumayer, & de Soysa, 2007).

The resource curse literature has become very diverse over time – while, at the beginning, most of the analysis focused on impacts at the macro/country level, several papers gradually shifted attention also to the meso (region) and micro (community) levels. Some recent papers have shown that mineral-rich and mineral-poor regions within sovereign countries also follow different development trajectories (and for reasons similar to the ones explaining cross-country differences; for example, see Papyrakis & Gerlagh, 2007 for the US, Shao & Qi, 2009 and Zhang, Xing, Fan, & Luo, 2008 for China; Papyrakis & Raveh, 2014 for Canada; Angrist & Kugler, 2008 for Colombia and Buccellato & Mickiewitz, 2009 for Russia). In parallel, although quite independently, a separate substream of the resource curse literature, dominated by anthropologists, sociologists, ethnographers and other social scientists, has probed into the development impacts of the extractive industries at the micro/community level (see Banks, 2007, 2009; Gilberthorpe, 2013, 2014; Golub, 2007; Bainton, 2008; Hilson, 2006). This micro resource curse literature, as a result of the scholarly prevalence by

non-economists, has examined the resource curse from a different angle; that is, with a closer focus on the impacts of the extractive industry on individual agency and community relationships. Some of these studies have looked at how resource extraction can exacerbate poverty for nearby communities (Hilson, 2010, 2012) or stimulate gender inequalities and social fragmentation (Macintyre, 2003). Many of these community-based studies explore the cultural aspects of the resource curse, and in particular, how indigenous populations, with little exposure to a market transaction-based economy, may struggle with the peculiarities associated with mineral extraction (Bainton, 2008; Crook, 2007). Tensions between the state/corporate sector and the indigenous communities in mineral-rich areas often result in social dislocation and conflict (Watts, 2008; Arellano-Yanguas, 2011). Several of these studies critique the tendency of extractive multinational companies to use the rhetoric of ‘sustainability’ and ‘corporate social responsibility’ to legitimise activities that often result in environmental damage and social disruption (Benson & Kirsch, 2010; Gilberthorpe & Banks, 2012).

Over the last decade, in particular, the literature became much more critical with several studies disputing the universality of the resource curse and, instead, highlighting the complexities and conditionalities of the phenomenon. Several studies emphasize that the *type* of natural resources matters and that the ‘resource curse’ is a ‘mineral curse’ at large. These studies distinguish between point and diffuse resources, with the former usually being geographically concentrated and exploited by a smaller share of the population (as in the case of mineral resources), and the latter being more widely dispersed (as in the case of agriculture). Most scholars nowadays agree that it is typically the extractive industries (rather than the diffuse resources) to blame for resource curse phenomena (Bulte et al., 2005; Lederman & Maloney, 2007) – oil and diamonds, in particular, receive most attention in the branch of the resource curse literature that focuses on democracy and conflict (see Olsson, 2007; Lujala, 2010; Ross, 2001; Tsui, 2011). Studies have also started to reflect more critically on how to proxy resource richness. Typically, the strong negative relationship between economic growth and mineral wealth (commonly found in empirical studies) disappears, when the latter is expressed in per

capita terms rather than as a share of overall economic activity (that is, GDP or total exports) – Brunnschweiler & Bulte, 2008 refer to the former measure as ‘resource abundance’ and to the latter as ‘resource dependence’. Brunnschweiler and Bulte (2008) criticise measures of resource dependence as suffering from endogeneity problems (given that the denominator of the ratio is itself influenced by natural resources and other growth-related factors). Van der Ploeg and Poelhekke (2010) replicate the analysis by Brunnschweiler and Bulte (2008) by replacing their original proxy of resource abundance (a measure of per capita subsoil wealth, which van der Ploeg and Poelhekke claim is likely to depend on resource rents and GDP growth) with the value of ‘not yet extracted reserves per capita’ provided by Norman (2009) – their results are in line with the earlier findings by Brunnschweiler and Bulte (2008) with no evidence of a negative direct link between resource abundance and subsequent growth. That seems to suggest that the resource curse depends on the relative (rather than the absolute) importance/size of the extractive sector compared to the rest of the economy.

An increasing number of studies has also devoted attention to how institutions can condition the effect of mineral wealth on several development outcomes. Good institutions that ensure property rights protection can discourage rent-seeking behaviour in mineral-rich contexts and, hence, prevent resource curse phenomena and stimulate economic development (Boschini, Pettersson, & Roine, 2007; Sarmidi, Law, & Jafari, 2014). The core message of these studies is that good institutions (in the form of secure property rights, efficient bureaucracies and low corruption) improve resource windfall management and can turn the curse into a blessing (El Anshasy & Katsaiti, 2013, Mehlum, Moene, & Torvik, 2006). In a similar vein, Arezki and Brückner (2010, 2012) find that mineral price booms lead to excessive government spending and sovereign bond spreads (a measure of macroeconomic uncertainty) in the presence of autocratic rulers.

III. COMPOSITION AND CONTRIBUTION OF SPECIAL ISSUE

After two decades of intensive research and a large amount of (often contradictory) evidence, there is a need to critically reflect on what we have learned so far, in combination with some new evidence regarding the complex relationships between natural resource wealth and socio-economic development. This has been the common objective of the eight papers of this special issue – through their academic pluralism (in terms of methodological diversity, and broad focus on different types of resources and regions) they highlight the complexities and conditionalities associated with the resource curse. Table 1 below provides an overview of the papers included in the special issue, summarising their key focus and methodological approach. Table 2 provides a summary of their key findings.

Insert Table 1

Insert Table 2

The first three papers of the special issue have a broader focus and provide some general reflection on earlier research, methodological challenges and conceptual dimensions associated with the resource curse. The paper by Gilberthorpe and Rajak (2017) provides a review of the contribution anthropological research has made over the past two decades to the resource curse literature; particularly in understanding the dynamic interplay of social relations, economic interests and struggles over power in the political economy of extraction. They claim that the anthropology of extraction has shown how global flows of resource capital unsettle, entrench or generate new forms of dependence, patronage and clientelism locally. They also emphasize the contribution of anthropology to problematising the ‘resource curse’ by illuminating the powerful agency within the forces of extraction and the experiences of those who become subject to them.

The resource curse analysis is, hence, incomplete when abstracted from the social politics and power relations that characterise extraction. The anthropological approach to the resource curse provides a methodological toolkit that allows to analyse how resource extraction generates and reshapes social relations between corporate actors, state officials, and local ‘stakeholders’ (creating, hence, new domains for the exercise of power, and new struggles over authority).

While the study by Gilberthorpe and Rajak (2007) focuses on *qualitative* research, the paper by van der Ploeg and Poelhekke (2017) shifts attention to recent *quantitative* evidence of the resource curse and provides a critical review of new methods, datasets and empirical analysis. They first discuss the problems that earlier macro-econometric evidence on the resource curse is fraught with (endogeneity of mineral wealth measures, multicollinearity, omitted variable bias) and continue to discuss new empirical approaches that offer better identification strategies and more reliable estimates. These include the use of data on big oil discoveries (to capture anticipation effects that precede extraction), the use of natural experiments, a preference for within-country econometric evidence and a focus on localised impacts in the vicinity of mineral activity.

The paper by Collier (2017) is conceptual in nature and draws upon recent developments in social psychology to put forward unexplored explanations of the resource curse. While the papers by Gilberthorpe and Rajak (2017) and van der Ploeg and Poelhekke (2017) concentrate attention to past research, his paper proposes new avenues for future research. He discusses how, in the absence of an active government communications policy, psychological biases interact with resource discoveries to generate mass opinions that contribute to resource curse phenomena. The assignment of spatial/temporal ownership (of mineral resources) is a social construct – psychological biases that favour allocation towards local claims and the current generations lead to conflict, populism and excessive consumption.

The next five papers of the special issue provide original analysis on different mechanisms of the resource curse. The paper by Hilson and Laing (2017) provides an ethnographic exploration behind the underwhelming economic performance of gold-rich Guyana over the last two decades. While many papers in the literature link the resource curse to the failure of foreign mining multinationals to induce a trickle-down effect to the rest of economy (see the review paper by Gilberthorpe & Rajak (2017) in this special issue), Hilson and Laing also show that ‘going small and local’ is not necessarily the ideal blueprint for sustained economic development. Their analysis demonstrates how a gold mining economy built around local small-scale operators does not avoid the resource curse pitfalls, at least in the absence of a strong institutional framework that discourages rent-seeking, constrains excessive spending, supports economic diversification and avoids the concentration of wealth in the hands of few mineral-dependent elites.

On the other hand, the paper by Porter and Watts (2017) offers a subnational case study of an atypical ‘resource curse escape’; they analyse the case of the Edo state in the oil rich Niger delta region, as a success story that strikingly contrasts with the dismal performance of Nigeria as a whole (which is often presented as one of the worst examples of a resource curse, as a result of contentious politics and a corrupt and ineffective system of fiscal federalism). They emphasize how local political and technical capability helped create reform space and deliver political results (particularly in the form of road projects) that appealed to a wide range of constituencies, generated employment and facilitated commercial activity.

The paper by Auty (2017) looks at the resource curse from the perspective of two small island economies, sugar-rich Mauritius and oil-rich Trinidad and Tobago. The historical comparison of these two economies, with very similar initial conditions other than their mineral endowment, allows to attribute their divergent development paths to their differences in hydrocarbon rents. Mauritius overcame potential disadvantages of size, remoteness and resource paucity by adopting an unfashionable policy of manufactured exports that systematically diversified and strengthened

its economy. In contrast, Trinidad and Tobago absorbed oil rents too rapidly, triggering Dutch Disease effects and intensifying risky dependence upon hydrocarbon reserves that face depletion within a decade.

The paper by Voors, Bulte, Papaioannou and van der Windt (2017) contributes to the literature on conflict and natural resource availability by linking within-country spatial and temporal patterns in conflict data (in the lines suggested by van der Ploeg & Poelhekke (2017)) to the quality of governance at the chiefdom level and to georeferenced locations of pre-war diamond mines. The innovation and contribution of their paper lies in investigating the motivations behind conflict at a disaggregated level, utilising local measures of governance and resource availability that are often unavailable for developing countries. They find that neither diamonds nor the quality of local governance robustly explain local variation in conflict intensity against the backdrop of the intense and prolonged Sierra Leone's war.

While several papers in this special issue highlight the preventive role of good institutions against the resource curse (for example, the papers by Auty (2017) and Porter & Watts (2017)), the analysis by Papyrakis, Rieger and Gilberthorpe (2017), instead of treating institutions as static, looks at how these evolve over time using macroeconomic panel data for a large sample of countries. More specifically, they assess how participation in the Extractive Industries Transparency Initiative (an international standard launched in 2002 to increase transparency in mineral rich states) can assist member countries to improve their institutions. They find that EITI membership offers, on the whole, a shielding mechanism against the general tendency of mineral-rich countries to experience increases in corruption over time.

IV. SYNTHESIS

The eight papers of the special issue aim to capture the current diversity of the resource curse literature, through their substantial variation in methodological approaches (both quantitative and qualitative analyses) and geographical focus (Latin America, Sub-Saharan Africa, global). While, for many years the resource curse was largely seen as a macroeconomic issue, there is now a wider recognition that methodological diversity is vital in understanding the complex and varied social, political and economic aspects of the phenomenon both at the global and local level. The special issue is hence a rare attempt to provide a more holistic and interdisciplinary picture of the resource curse and its multi-scale effects.

Taken together the studies collectively emphasize the complexities and conditionalities of the ‘curse’ – its presence/intensity being largely context-specific, depending on the type of resources, socio-political institutions and linkages with the rest of the economy and society. Several key messages arise. First, the resource curse can take place at multiple levels (at the country, regional or local level) and many of its effects are not directly quantifiable (for instance the impacts on social and cultural capital; see Gilberthorpe & Rajak, 2017) – it is for this reason, that a multi-scale, multi-disciplinary approach is necessary. The experience of resource-rich regions (for example, in terms of economic performance or conflict) is often different to the overall experience of the country to which they belong (see Voors, Bulte, Papaioannou, & van der Windt, 2017; Porter and Watts, 2017). Second, the resource curse is by no means an *iron law* – several countries, regions and communities have avoided the curse by encouraging economic diversification, investment and an equitable distribution of accrued rents (Auty, 2017; Porter & Watts, 2017). In many cases, good institutions in place (or adhering to an international standard, such as the EITI) can play a vital moderating role in transforming the curse into a blessing (Papyrakis, Rieger, & Gilberthorpe, 2017). Third, while it might be tempting to blame large

multinationals for resource curse phenomena (particular in the context of environmental destruction and lack of positive spillovers to the rest of the economy/society), extractive sectors built around local small-scale operators do not necessarily avoid the resource curse pitfalls (see Hilson & Laing, 2017). Last, there is still a lot that we do not know about the resource curse and its manifestations – it is only during the last few years that new disaggregated data have allowed us to identify (possibly more accurately) the localised impacts in the vicinity of mineral activity (van der Ploeg & Poelhekke, 2017). Recent developments in social psychology (that focus on anticipation effects that precede extraction or psychological biases that define resource allocation) can further advance our knowledge in the field (Coller, 2017; van der Ploeg & Poelhekke, 2017).

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Table 1. Special Issue Papers – Main Characteristics

	Type of resources	Outcome variables	Time period	Scale	Type of analysis	Methods
1. Gilberthorpe and Rajak	Minerals	Social relations, inequities	Multiple	Several countries (Local/Community level)	Qualitative	Review of recent anthropological research
2. van der Ploeg and Poelhekke	Minerals	Several economic variables (growth, investment and so forth), conflict, democracy, corruption	Multiple	Several countries (Micro/Meso/Macro)	Qualitative	Review of recent econometric research
3. Collier	Minerals	Conflict, investment	Multiple	Several countries (Macro)	Qualitative	Conceptual paper
4. Hilson and Laing	Gold	Corruption, rent-seeking, economic diversification	Late-1990s to 2014	Guyana (Micro/Meso/Macro)	Qualitative	Ethnographic Study
5. Porter and Watts	Oil	Institutional reforms, governance, infrastructure	Early-1990s to 2012	Nigeria (Subnational – Edo state)	Qualitative	Political Ecology
6. Auty	Sugar, oil	Economic growth, diversification, employment	1960s to 2012	Mauritius / Trinidad and Tobago (Macro)	Qualitative/ Quantitative	Case study comparison
7. Voors, Bulte, Papaioannou and van der Windt	Diamonds	Conflict	1991-2002	Sierra Leone (Subnational)	Quantitative	Econometric analysis
8. Papyrakis, Rieger and Gilberthorpe	Minerals, oil	Corruption, institutions	2002-2011	Several countries (Macro)	Quantitative	Econometric analysis

Table 2. Summary of findings

1. Gilberthorpe and Rajak	The anthropological approach to the resource curse provides a complementary methodological toolkit to analyse how resource extraction generates and reshapes social relations between corporate actors, state officials, and the local population. This is vital in understanding how existing forms of extraction entrench, unsettle or generate new forms of inequality, friction and dispossession in resource curse affected areas.
2. van der Ploeg and Poelhekke	New quantitative approaches increase the reliability of resource curse impacts: these include the use of data on big oil discoveries, the use of natural experiments, a preference for within-country econometric evidence and a focus on localised impacts in the vicinity of mineral activity.
3. Collier	A critical mass of informed citizens (on the spatial and temporal assignment of resource ownership) can be a prerequisite for avoiding psychological biases that lead to conflict and excessive spending in a mineral-rich context.
4. Hilson and Laing	A gold mining economy built around local small-scale operators does not avoid the resource curse pitfalls, at least in the absence of a strong institutional framework
5. Porter and Watts	Local good governance can create reform space and a ‘resource curse escape’, even when the general political environment at the country level is far from favourable.
6. Auty	Comparison of economies with very similar initial conditions other than their mineral endowment (namely, Mauritius; Trinidad and Tobago) allows to attribute divergent development paths (and government policies) to their differences in hydrocarbon rents.
7. Voors, Bulte, Papaioannou and van der Windt	Neither diamonds nor the quality of local governance robustly explain local variation in conflict intensity against the backdrop of the intense and prolonged Sierra Leone’s war.
8. Papyrakis, Rieger and Gilberthorpe	Mineral rich countries that participate in the Extractive Industry Transparency shield themselves against an institutional resource curse (that is, they experience a reduction in corruption levels).