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ONTOLOGY AND METHODOLOGY IN THE STUDY OF THE RESOURCE CURSE

MICHAEL HERB



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Ontology and Methodology in the Study of the Resource Curse

Michael Herb

About the Author

Michael Herb is Professor of Political Science at Georgia State University. His work focuses on Gulf politics, monarchism and the resource curse. He is the author of *The Wages of Oil: Parliaments and Economic Development in Kuwait and the UAE* (Cornell University Press, 2014) and *All in the Family: Absolutism, Revolution, and Democracy in the Middle Eastern Monarchies* (SUNY, 1999). He has twice won Fulbright awards to study in Kuwait.

Abstract

The most influential work on the resource curse employs quantitative methodologies, typically some variant of regression analysis that includes (to the extent that data allows) all of the world's countries over a number of years. This paper argues that natural resource rents affect political outcomes through different channels, with varying impact and even direction of effect. This complexity is very difficult to capture in a large quantitative model. This paper argues that careful case studies are a more suitable way to advance our knowledge of the resource curse.

Introduction

The literature on the resource curse, like much of comparative politics, puts a premium on finding generalisations that apply across many or most countries. The question that is usually asked goes something like this: what is the expected net effect of rents on democracy (or economic growth, or civil war) across all countries in the world, or at least a large subset of them? This usually presumes that a common set of causal mechanisms drives outcomes across all cases. This is not in fact true. Instead the causal mechanisms by which rents affect outcomes are numerous and highly conditional. Given this ontology, an insistence on finding nomological, law-like regularities across the entire universe of cases – when such regularities do not exist – will lead only to conflicting findings and policy recommendations that are either too vague to be useful or too obviously wrong to be taken seriously.

Methodology, Peter Hall writes, should be aligned with ontology.¹ That is to say, the ontology of the subject we are studying – which he describes as our understanding of ‘the character of the world as it actually is’ – should drive our methodological choices when we study politics.² The ontology of the resource curse, I argue in this paper, is characterised by causal complexity, a result of both pervasive conditionality and a multiplicity of causal mechanisms.³ This has implications for the appropriate methodologies for studying the impact of oil revenues on political outcomes. The paper is divided into three parts. In the first I discuss views on causal complexity in the existing literature on the resource curse. Second, I assess the ontology of the resource curse by considering the findings of existing studies. Third, I draw some conclusions on the best methodological approaches to use in the study of the resource curse in the light of evidence of causal complexity.

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¹ Peter A. Hall, ‘Aligning Ontology and Methodology in Comparative Politics’, in James Mahoney and Dietrich Rueschemeyer (eds), *Comparative Historical Analysis in the Social Sciences* (Cambridge: Cambridge University Press, 2003).

² *Ibid.*, p. 374. His fuller definition is ‘the fundamental assumptions scholars make about the nature of the social and political world and especially about the nature of causal relationships within that world. If a methodology consists of techniques for making observations about causal relations, an ontology consists of premises about the deep causal structures of the world from which analysis begins and without which theories about the social world would not make sense.’

³ By ‘the resource curse’, I mean the political and economic outcomes of the receipt of rents. These outcomes are sometimes a blessing, sometimes a curse, and sometimes neither.

Conditionality

Conditionality is perhaps best understood through an example drawn from the literature. Norway exports a great deal of oil but appears to be entirely uncursed by it. To explain this, it is often argued that the causal mechanism that produces the resource curse does not operate in countries which had well-developed political institutions before exporting oil. Thus the effect of rents on the outcome is conditional on the nature of pre-oil institutions. A more formal definition is found in Brambor, Clark and Golder: a ‘conditional hypothesis is simply one in which a relationship between two or more variables depends on the value of one or more other variables’.⁴ Thus in Norway, the impact of rents on democracy depends on (specifically, is attenuated by) its high-quality pre-oil institutions.

Simple conditionality can be dealt with in regression models in two ways. First, an interaction term can be added to the regression model.⁵ The variable measuring rentierism is multiplied by the conditioning variable. Thus, in the example above, if institutional strength is coded from strong to weak (0 to 1), the interaction variable will have a value approaching zero in any country with strong institutions, regardless of how much rent wealth it enjoys.⁶ Second, if the causal mechanisms of interest do not apply to a subset of cases, the most straightforward approach is simply to remove the cases from the dataset. Thus, in one of several explorations of the possibility of conditionality, Haber and Menaldo theorise that the resource curse might operate only after 1973, and analyse a model that excludes earlier data.⁷

⁴ Thomas Brambor, William Roberts Clark and Matt Golder, ‘Understanding Interaction Models: Improving Empirical Analyses’, *Political Analysis* 14/1 (21 December 2006), pp. 63–82 at p. 64.

⁵ For a discussion in the resource curse literature itself, see Macartan Humphreys, ‘Natural Resources, Conflict, and Conflict Resolution: Uncovering the Mechanisms’, *Journal of Conflict Resolution* 49/4 (1 August 2005), pp. 508–37 at p. 521. See more generally Brambor et al., ‘Understanding Interaction Models’; Cindy D. Kam and Robert J. Franzese, *Modeling and Interpreting Interactive Hypotheses in Regression Analysis* (Ann Arbor: University of Michigan Press, 2007); Robert J. Friedrich, ‘In Defense of Multiplicative Terms in Multiple Regression Equations’, *American Journal of Political Science* 26/4 (1 November 1982), pp. 797–833; Bear F. Braumoeller, ‘Hypothesis Testing and Multiplicative Interaction Terms’, *International Organization* 58/4 (1 October 2004), pp. 807–20.

⁶ This differs from the procedure followed when a variable has an independent impact on the outcome variable: in that case, the second variable is included as a separate ‘control’ variable in the regression model.

⁷ Stephen Haber and Victor Menaldo, ‘Do Natural Resources Fuel Authoritarianism? A Reappraisal of the Resource Curse’, *American Political Science Review* 105/1 (February 2011), pp. 1–26 at p. 19.

Conditionality in the Literature on the Resource Curse

Waldner and Smith identify three schools of thought on conditionality among those who study the resource curse: the orthodox, the heterodox and the dissenting.⁸ The orthodox school holds that rents have an unconditioned effect on political outcomes. The heterodox view holds that rents have a mediated (or conditional) effect on outcomes. The dissenting view ‘denies any systematic relationship between resource abundance and political-economic outcomes’.⁹ Along similar lines, Liou and Musgrave, in a 2014 article, identify two schools: the ‘resource pessimists’, who are the ‘orthodox’ of Waldner and Smith, and the ‘resource conditionalists’, who argue that ‘the curse is contingent on factors like institutional quality – or that there is no curse at all’.¹⁰ In both articles the dissenting or conditionalist view is identified, at least to some degree, with those who find evidence of no impact, or a positive impact, of rents on outcomes.¹¹ It is true that those who find more conditionality in the resource curse also frequently dispute the degree to which rents are a curse, but nonetheless the two issues are different. One is about the direction of the net effect, the other is about the level of conditionality. In the discussion below I focus only on the level of causal complexity, not on the direction of effect.

Few scholars – perhaps no scholars – offer an unambiguous defence of the orthodox position (understood here as an advocacy of no conditionality). To be sure, some prominent studies take little or no account of conditionality. This is true of the three foundational works of the resource curse literature, each of which uses quantitative methods to examine the impact of rents on a different dependent variable. The first of these pieces was Sachs and Warner’s 1995 paper on the effect of resource dependence on economic growth.¹² This was followed by Michael Ross’s 2001 article on oil and democracy.¹³ The third was Collier and Hoeffler’s 2004 paper on natural resources and civil war.¹⁴ Each of these

⁸ David Waldner and Benjamin Smith, ‘Rentier States and State Transformations’, in Stephan Leibfried et al. (eds), *The Oxford Handbook of Transformations of the State* (Oxford: Oxford University Press, 2015), p. 714.

⁹ Ibid. Sean Yom calls this the ‘revisionist’ school of resource curse studies. Sean L. Yom, ‘Oil, Coalitions, and Regime Durability: The Origins and Persistence of Popular Rentierism in Kuwait’, *Studies in Comparative International Development* 46/2 (May 2011), pp. 217–41. Ahmadov, in a review of 29 large-n studies on rents and democracy, calls this ‘a nascent movement toward conditional theories of the resource curse’. Anar K. Ahmadov, ‘Oil, Democracy, and Context A Meta-Analysis’, *Comparative Political Studies* 47/9 (1 August 2014), pp. 1238–67 at p. 1240.

¹⁰ Yu-Ming Liou and Paul Musgrave, ‘Refining the Oil Curse: Country-Level Evidence from Exogenous Variations in Resource Income’, *Comparative Political Studies* 47/11 (1 September 2014), pp. 1584–1610 at p. 1585.

¹¹ Thus Liou and Musgrave call the orthodox school the ‘pessimists’, while Waldner and Smith (‘Rentier States and State Transformations’, p. 716) identify Brunschweiler’s study as falling into the dissenting school, even though she finds a ‘positive effect on growth’. See Christa N. Brunschweiler, ‘Cursing the Blessings? Natural Resource Abundance, Institutions, and Economic Growth’, *World Development* 36/3 (March 2008), pp. 399–419.

¹² Jeffrey D. Sachs and Andrew M. Warner, ‘Natural Resource Abundance and Economic Growth’, *NBER Working Paper Series 5398* (Cambridge, MA: National Bureau of Economic Research, 1995).

¹³ Michael L. Ross, ‘Does Oil Hinder Democracy?’, *World Politics* 53 (April 2001), pp. 325–61.

¹⁴ Paul Collier and Anke Hoeffler, ‘Greed and Grievance in Civil War’, *Oxford Economic Papers* 56/4 (2004), pp. 563–95.

studies helped to launch a debate about its respective dependent variable, and they appear to be the most highly cited works in the literature on the resource curse (each has more than 2,000 cites in Google Scholar).¹⁵ The lack of conditionality in their models,¹⁶ however, is not the same as a spirited defence of orthodoxy. These were the first prominent works to apply quantitative methods to the relationship between rents and their respective dependent variables, and each provided evidence of a correlation in the direction of a curse. The absence of conditionality should not be read as evidence that these authors refused conditionality in principle, as the later work of some of these authors shows. In a subsequent piece published in 2005 Collier and Hoeffler wrote that ‘Large resource rents are not intrinsically a curse [...] [T]he search for conditioning circumstances is a key research agenda.’¹⁷ Ross’s 2014 co-authored response to Haber and Menaldo hinges on temporal conditionality and favourably cites other examples of conditional arguments in the literature.¹⁸ In short, while one can still find the occasional study that includes no conditionality, there is little debate about the possibility of conditionality in the resource curse: the battle, if it was ever really joined, is over. No one seems to be defending the orthodox position.

Simple vs. Complex Conditionality

Despite the absence of diehard defenders of the orthodox position, we can discern the lineaments of a different debate: one between those who find some, but limited, conditionality in the resource curse, and those who find a great deal of conditionality. The stakes of this debate are in fact greater than those of the debate between the orthodox position and those who argue for simple conditionality: it is not difficult to accommodate simple conditionality within the original research agendas set out by the three foundational pieces discussed above – an interaction term does it. Complex conditionality is harder: it is not amenable to standard quantitative analysis, especially in the context of the resource curse, where the unit of analysis is usually the country, and thus cases are limited in number.¹⁹ Interaction terms multiply, the number of cases shrinks, and the already formidable obstacles to the use of large-n methods to study nation-states become even more daunting. Given the paucity of cases for any particular causal mechanism, complex conditionality makes it difficult to make law-like statements about the effect of rents on politics.

¹⁵ Google Scholar, as of September 2015, showed over 5,000, 3,800 and 2,300 citations for the pieces by, respectively, Collier and Hoeffler, Sachs and Warner, and Ross. While I did not do an exhaustive check, I could find no other pieces on the resource curse with citation counts this high.

¹⁶ Collier and Hoeffler do use an interaction term to change the independent variable from primary commodities to only oil. Collier and Hoeffler, ‘Greed and Grievance in Civil War’, p. 580.

¹⁷ Paul Collier and Anke Hoeffler, ‘Resource Rents, Governance, and Conflict’, *Journal of Conflict Resolution* 49/4 (1 August 2005), pp. 625–33 at p. 627.

¹⁸ Jørgen J. Andersen and Michael L. Ross, ‘The Big Oil Change: A Closer Look at the Haber–Menaldo Analysis’, *Comparative Political Studies* 477 (1 June 2014), pp. 993–1021 at p. 1015.

¹⁹ Democracy is hard to measure except at the level of the sovereign state, and much the same is true of economic growth and civil war.

Simple Conditionality

Simple conditionality is ubiquitous in the literature, appearing virtually from the beginning of the discussion of the rentier state. Often only one condition is entertained and the presumption of generality remains strong. The overall effect of this sort of conditionality is to explain some obvious outliers, leaving highly generalisable theories that applied to cases across a wide variety of contexts. Thus, for example, in a widely read 1997 book, *The Paradox of Plenty*, Terry Lynn Karl asserts that her argument applies to all capital-deficient oil exporters, a diverse group of countries that includes Algeria, Indonesia, Iran, Nigeria and Venezuela.²⁰ She writes that ‘countries dependent on the same export activity are likely to display significant similarities in the capacity (or incapacity) of their respective states to guide development, even if their actual institutions are quite different in virtually all other respects’.²¹ Mehlum, Moene and Torvik in 2006 published a prominent reassessment of Sachs and Warner in which they included an interaction term for institutional quality: they found a negative effect of oil dependence on economic growth that was limited to cases with weaker institutions.²² The degree of conditionality is limited and accommodated within the framework of an econometric model. Michael Ross, in the response to Haber and Menaldo mentioned above (co-authored with Jørgen Andersen), argues that the causal mechanism through which oil rents damage democracy did not operate until the late 1970s, when countries gained control of their own oil resources.²³ These authors conclude with an endorsement of conditionality, or at least of temporal conditionality, writing that ‘most meaningful claims in political science are probably specific to a set of historical conditions that change over time’.²⁴ These are only a few examples of a widespread tendency in the literature to find simple conditionality in the resource curse. If there is an orthodoxy in the resource curse literature, it is an orthodoxy that admits to conditionality, but insists on the possibility of wide generalisability of findings once conditionality has been addressed.

²⁰ Terry Lynn Karl, *The Paradox of Plenty: Oil Booms and Petro-States* (Berkeley, CA: University of California Press, 1997), pp. 17–19.

²¹ *Ibid.*, p. 237.

²² Halvor Mehlum, Karl Moene and Ragnar Torvik, ‘Institutions and the Resource Curse’, *Economic Journal* 116/508 (January 2006), pp. 1–20 at p. 13. For a formal model of this, see James A. Robinson, Ragnar Torvik and Thierry Verdier, ‘Political Foundations of the Resource Curse’, *Journal of Development Economics* 79/2 (April 2006), pp. 447–68.

²³ Andersen and Ross, ‘Big Oil Change’, p. 1001.

²⁴ *Ibid.*, p. 1016.

Complex Conditionality

It is possible to find, however, suggestions in the literature of a much deeper and more complex conditionality. Eric Davis, as far back as 1991, makes an argument for what amounts to complex conditionality in response to claims that oil makes rentier states autonomous:

Each Arab oil-producing state possesses a different historical tradition and trajectory and has had to respond to a different set of sociohistorical forces. The notion of ‘relative autonomy’ collapses the historical specificity of Arab oil states into a static conceptual framework that fails to indicate the genesis of particular types of state formation.²⁵

Gwenn Okruhlik’s 1999 article on the Saudi opposition concludes with the assertion that ‘historical and social contexts must be integrated into analyses of contemporary rentier states [...] The receipt of oil revenues per se does not explain development or opposition or relations between ruler and ruled. The manner in which the rent is deployed, however, tells us much.’²⁶ Steffen Hertog, in his 2010 *World Politics* piece on state-owned enterprises (SOEs), writes that, ‘Gulf SOEs show that rent inflows do not automatically lead to institutional stagnation or decay as resource curse theorists have posited. Rather, political circumstances determine which institutions are built with oil money.’ His argument embraces contingency: ‘SOE politics are complex and contingent. The stylised facts presented in this article do not allow for firm predictions of what a specific rentier SOE is going to look like. Elite agency and historical context cannot be modeled in the abstract.’²⁷

We also find support for complex causality in works in the large-n tradition. Benjamin Smith concludes his 2004 *American Journal of Political Science* article writing that:

The wide variation in levels of stability in oil dependent states suggests that oil wealth might exert varying effects on regime durability and domestic conflict. Large-n statistical analysis is unlikely to provide an answer to this question [...] [S]tatistical and small-n or case study methodologists have underplayed the importance of agency and timing [...] none have provided a theory to explain how oil revenues might ‘do’ different things depending on the context in which they do them.²⁸

²⁵ Eric Davis, ‘Theorizing Statecraft and Social Change in Arab Oil-Producing Countries’, in Eric Davis and Nicola Gavrielides (eds), *Statecraft in the Middle East: Oil, Historical Memory and Popular Culture* (Gainesville, FL: University Press of Florida, 1991), pp. 11–12.

²⁶ Gwenn Okruhlik, ‘Rentier Wealth, Unruly Law, and the Rise of Opposition: The Political Economy of Rentier States’, *Comparative Politics* 31 (April 1999), pp. 295–315 at p. 309. See also Jonathan Di John, ‘Oil Abundance and Violent Political Conflict: A Critical Assessment’, *Journal of Development Studies* 43/6 (2007), pp. 961–86 at p. 980.

²⁷ Steffen Hertog, ‘Defying the Resource Curse: Explaining Successful State-Owned Enterprises in Rentier States’, *World Politics* 62/2 (April 2010), pp. 261–301 at p. 293.

²⁸ Benjamin B. Smith, ‘Oil Wealth and Regime Survival in the Developing World, 1960–1999’, *American Journal of Political Science* 482 (April 2004), pp. 232–46 at p. 243.

Haber and Menaldo, in their *American Political Science Review* piece, are agnostic about the underlying causal mechanisms of the theory, freely admitting that there might be cases in which rents encouraged authoritarianism – or, for that matter, democracy. But, they write, ‘there is a big difference between pointing to these instance and making sweeping, law-like statements’.²⁹ Liou and Musgrave, in an excellent 2014 article in *Comparative Political Studies*, also make a sustained argument for complex conditionality, posing their conclusions in direct comparison with a more simple conditionality. They study seven countries that became rentiers as a result of the 1973 oil-price shock, using synthetic controls to construct counterfactuals.³⁰ Liou and Musgrave find that ‘the pessimists’ [i.e. the ‘orthodox’ of Waldner and Smith] mechanism is operative in Algeria. However, the experiences of Ecuador and Nigeria lead us to suspect that the link between oil and democratisation is less straightforward than either pessimists or conditionalists expect.’³¹ They conclude that ‘similarly situated countries did not react similarly to the oil shock’.³²

This survey of the resource curse is hardly comprehensive. It does serve, however, to illustrate the main point: scholars working on the resource curse frequently find conditionality, and suggest that this conditionality is pervasive, extensive, hard to deal with in regression models, and a characteristic of the ontology of rents and politics.

Other Sources of Causal Complexity

Conditionality is not the only potential source of causal complexity in the study of the resource curse. Macartan Humphreys has written that the literature on the resource curse – specifically, the resource curse and civil war – suffers from an ‘embarrassment of mechanisms’, and questions whether or not econometric large-n methods are adequate to the task for this reason.³³ While he answers the question in favour of econometric methods, he also provides a particularly vivid account of the profusion of causal mechanisms in the explanation of civil war via rents. The problem is hardly limited to the issue of civil war: there is a similar embarrassment of mechanisms connecting rents with democracy. The causal mechanisms through which rents have been said to harm democracy include: state autonomy,³⁴ greater state repressive capacity,³⁵ the relative absence of taxation,³⁶ the

²⁹ Haber and Menaldo, ‘Do Natural Resources Fuel Authoritarianism?’, p. 25.

³⁰ Liou and Musgrave, ‘Refining the Oil Curse’, pp. 1586, 1594. On synthetic controls, see Alberto Abadie, Alexis Diamond and Jens Hainmueller, ‘Comparative Politics and the Synthetic Control Method’, *American Journal of Political Science* 59/2 (1 February 2015), pp. 495–510.

³¹ Liou and Musgrave, ‘Refining the Oil Curse’, p. 1602.

³² *Ibid.*, p. 1604.

³³ Humphreys, ‘Natural Resources, Conflict, and Conflict Resolution’, p. 510. For a survey of some causal mechanisms through which rents might discourage economic development see Frederick Van der Ploeg, ‘Natural Resources: Curse or Blessing?’, *Journal of Economic Literature* 49/2 (June 2011), pp. 366–420.

³⁴ Jill Crystal, *Oil and Politics in the Gulf: Rulers and Merchants in Kuwait and Qatar* (Cambridge: Cambridge University Press, 1990).

³⁵ Ross, ‘Does Oil Hinder Democracy?’, pp. 335–6.

³⁶ Giacomo Luciani, ‘Allocation vs. Production States: A Theoretical Framework’, in Giacomo Luciani (ed.), *The Arab State* (Berkeley, CA: University of California Press, 1990), pp. 65–84.

dependence of the bourgeoisie,³⁷ the absence of the sort of class politics found in capitalist societies,³⁸ citizen contentment with their rulers,³⁹ rent-induced political stability,⁴⁰ a rentier mentality,⁴¹ a rentier social contract, and many others. A number of causal mechanisms that make democratisation *more* likely are also found in the literature: rents make democracy more likely by increasing levels of education, creating a large middle-class,⁴² promoting a transition away from a class structure dominated by an agricultural landlord elite,⁴³ easing the distributional threat of democratisation,⁴⁴ and more. Ultimately, of course, what matters is not how many causal mechanisms are found in the literature, but how many causal mechanisms are found in the political world. The abundance of causal mechanisms in the literature, however, gives us some reason to think that the ontology of the resource curse might in fact be characterised by multiple causal mechanisms.

Exploring the Ontology of the Resource Curse

What sort of evidence would help us to determine the actual level of causal complexity in the resource curse, in terms of both conditionality and the number of operating causal mechanisms? We do not, of course, have a definitive answer to this question. If we did, we would also know the specific causal mechanisms at work, and we could move on to some other problem. Nonetheless, scholars have spent a good deal of time examining the resource curse, and we can draw some conclusions from the results of their efforts.

In the large-*n* literature on the resource curse we find pretty much what we would expect to find if the ontology of the resource curse featured more rather than less causal complexity: we find uncertain and disputed evidence of a net effect of rents on outcomes, and little agreement on causal mechanisms.⁴⁵ While it is probably fair to say that the large-*n*

³⁷ Eva Bellin, 'Contingent Democrats: Industrialists, Labor, and Democratization in Late-Developing Countries', *World Politics* 52/2 (January 2000), pp. 175–205 at p. 196.

³⁸ Jacques Delacroix, 'The Distributive State in the World System', *Studies in Comparative International Development* 15/3 (Fall 1980), pp. 3–21.

³⁹ In poorer rentiers, this contentment lasts only while revenues are rising. In the richest rentiers, the effect might plausibly last several generations.

⁴⁰ Smith, 'Oil Wealth and Regime Survival'. Smith argues that rents make regimes more durable. Since most oil exporters started out authoritarian (as a result of factors exogenous to their oil), regime durability plausibly acts as an explanation for continued authoritarianism.

⁴¹ Luciani, 'Allocation vs. Production States'.

⁴² John Clark, 'Petro-Politics in Congo', *Journal of Democracy* 8/3 (July 1997), pp. 62–76 at p. 74; John R. Heilbrunn, *Oil, Democracy, and Development in Africa* (Cambridge: Cambridge University Press, 2014), p. 8.

⁴³ Terry Lynn Karl, 'Petroleum and Political Pacts: The Transition to Democracy in Venezuela', in Guillermo O'Donnell, Philippe C. Schmitter and Laurence Whitehead (eds), *Transitions from Authoritarian Rule: Latin America. Vol. 2* (Baltimore, MD: Johns Hopkins University Press, 1986).

⁴⁴ Thad Dunning, *Crude Democracy: Natural Resource Wealth and Political Regimes* (Cambridge: Cambridge University Press, 2008).

⁴⁵ The literature on rents and economic growth seems to have settled on a specific mechanism related to the quality of institutions, but there is much dissent about the actual impact of institutions, and some articles find other mechanisms, such as education. Thorvaldur Gylfason, 'Natural Resources, Educa-

scholarly literature on the resource curse leans towards the view that resources do in fact impart a curse,⁴⁶ it is also true that many scholars using large-n methods contest this finding, and there is a spirited debate in the literature over the existence of even a net negative impact of oil on economic growth or democracy.⁴⁷ What we do not find is an unambiguous net effect of rents on outcomes, in one direction, along with a clear indication of the specific causal mechanism at work. That said, it is asking a lot of the method to expect unambiguous results from large-n regression studies. The data are observational, drawn from a small and fixed universe of cases, not independent of each other, and not otherwise particularly amenable to regression analysis. Even if the ontology of the resource curse were characterised by simple causality, large-n methods might not yield clear results. The lack of clear results from the literature, however, suggests either that there is causal complexity in the ontology of the resource curse or that the data are intractable to large-n methods. Or, perhaps, both.

Case Studies

Careful case studies, and especially comparative case studies, frequently identify important causal mechanisms in which oil affects outcomes through paths that are highly dependent on the existing political context – that is to say, in ways that are highly conditional. This occurs even in works that otherwise argue for the generalisability of rentier causal mechanisms. Jill Crystal, to give one example, argues for the oil-induced autonomy of the rentier state, but her case studies of Kuwait and Qatar show the divergent political roles played by the merchant class in each country.⁴⁸

What we do *not* find in the case study literature is the repeated identification of a similar set of causal mechanisms operating across cases drawn from the Middle East, Central Asia, Latin America and Sub-Saharan Africa, with a relatively small number of conditionalities. Instead we find a profusion of causal mechanisms beset by chronic conditionality. Perhaps this is because scholars undertaking case studies are missing the forest for the trees. But this is unlikely: political science puts a premium on finding forests, so the greater risk is that scholars will find a tree and call it a forest. In the discussion below I do not attempt to

tion, and Economic Development’, *European Economic Review*, 15th Annual Congress of the European Economic Association, 45/4–6 (May 2001), pp. 847–59.

⁴⁶ This is, for example, Gerring’s reading of the literature on rents and democracy. I think, however, that he overstates the consensus around the existence of a curse. John Gerring, ‘Causal Mechanisms: Yes, But ...’, *Comparative Political Studies* 43/11 (1 November 2010), pp. 1499–1526 at p. 1507.

⁴⁷ Those who question the negative findings of the resource curse on economic growth include Christa N. Brunnschweiler and Erwin H. Bulte, ‘The Resource Curse Revisited and Revised: A Tale of Paradoxes and Red Herrings’, *Journal of Environmental Economics and Management* 55/3 (May 2008), pp. 248–64; Brunnschweiler, ‘Cursing the Blessings?’. On rents and democracy, the most prominent dissenting statement is Haber and Menaldo, ‘Do Natural Resources Fuel Authoritarianism?’. See also Liou and Musgrave, ‘Refining the Oil Curse’; Michael Herb, ‘No Representation without Taxation? Rents, Development and Democracy’, *Comparative Politics* 37/3 (April 2005), pp. 297–316.

⁴⁸ Crystal, *Oil and Politics*, p. 2. She identifies a ‘patterned, recurring response to oil’, but writes that ‘the processes induced by oil, although similar in each state, are not identical’.

review the entire case study literature, which is quite large. Instead, I focus on three examples. I first examine an excellent 2004 article on civil wars by Michael Ross. I then consider the causal mechanisms at work in the Gulf monarchies, drawn from my own previous work. Finally I examine the rich literature on the resource curse in South America.

Civil War

In his influential and widely cited 2004 *International Organization* article on civil wars, Michael Ross uses case study techniques to ‘explore the mechanisms behind’ the correlation between natural resources and civil war.⁴⁹ ‘Identifying the mechanisms that link resources to civil war’, he writes, ‘would make these theories more complete and persuasive: statistical correlations can only take one so far.’⁵⁰

Ross considers, in total, 13 causal mechanisms. He starts with nine, drawn from the existing literature, and drops two immediately for their intractability to the case study method. He adds an additional four that emerge in the course of the case studies and which had not been noticed in the literature to that point. There are three dependent variables in the study: the onset of civil wars, their duration and their intensity.⁵¹ The case studies include all the instances of civil war in the 1990s in which it had been suggested, in the literature, that natural resources had a causal role – there are 13 such cases. The goal thus is not to provide evidence on the likelihood that rents will affect outcomes, but to show how rents affected outcomes where evidence of this effect already exists.⁵²

Ross does not find any support for several causal mechanisms that figure prominently in the large-n literature, reinforcing the utility – or necessity – of a close understanding of the cases. A summary of Ross’s conclusions – organised below by outcome variable – gives a vivid sense of the degree of causal complexity in the effect of rents on civil wars.

Civil War Onset: Natural resources contributed to the onset of civil wars in five of the 13 cases, via three separate mechanisms.

- Natural resources helped trigger two of the separatist conflicts (Indonesia and Sudan) but not the third (Burma).
- Foreign powers supported ‘nascent’ rebel movements in the hope of securing access to natural resources as those movements captured territory. This occurred in two cases: Sierra Leone and the Democratic Republic of Congo.
- Rebel groups sold mineral rights to international firms or foreign governments, then used the funds to seize control of the resources. Ross calls these ‘booty futures’. This happened in the Congo Republic and in Sierra Leone (in the latter country two causal mechanisms were at work).

⁴⁹ Michael L. Ross, ‘How Do Natural Resources Influence Civil War? Evidence from Thirteen Cases’, *International Organization* 58/1 (Winter 2004), pp. 35–67 at p. 35.

⁵⁰ Ibid., p. 36.

⁵¹ Ibid., pp. 37–9.

⁵² Ibid., pp. 46, 48.

The second and third causal mechanisms were not found in the previous literature and emerged out of the case studies.

Civil War Duration: Natural resource rents had an impact on the duration of civil wars through five mechanisms (two pairs of mechanisms operated similarly, with the direction of their effect on outcomes dependent on a conditioning variable).

- In ten of the 13 cases, rents from natural resources helped rebel movements stay in the field, lengthening conflicts. This is the most generalisable, and least complex, mechanism of the entire study.
- In two cases, the prospect of looting resources in the future gave actors an incentive to lengthen the conflict.
- But in three cases the prospect of looting resources in the future gave actors an incentive to *settle* the conflict. This is, of course, nearly identical to the mechanism above. The additional conditionality at work here appears to lie in the ability of combatants to work out a durable deal in which rebels stop fighting in return for control over natural resource rents.
- The sale of booty futures lengthened two conflicts already under way.
- But the sale of booty futures shortened one conflict. The conditionality at work here is as follows: if the stronger side sells the futures, the war ends sooner. If it is the weaker side, the sale of futures extends the war.

Civil War Intensity: Ross identifies three mechanisms through which natural resource rents made conflicts more intense.

- In two cases, both of them separatist civil wars, governments pre-emptively repressed opposition because the government feared that a separatist movement would take control of natural resources.
- In nine of the 13 cases, battles occurred over control of resources which, if the resources had not been present, probably would not have occurred. This heightened the intensity of the conflicts.
- But in eight cases (all among the nine cases above) wars paused while combatants exploited natural resources. In the absence of the natural resources, a pause would not have been expected. Ross does not identify the conditions under which a pause, or more war, is to be expected, and concludes that the two mechanisms wash each other out.

Overall, this is powerful evidence of causal complexity. It is true that there is one causal mechanism that operates in a single direction across a number of cases (i.e., rebel movements that gain income from natural resources stay on the field longer). But there are *three* pairs of closely related causal mechanisms that, depending on very specific conditionalities, had the opposite effect on outcomes. Four additional causal mechanisms applied only to a small subset of cases (among a set of cases selected in a way to maximise the possibility of detecting causal mechanisms). Ross does not shy away from this in his conclusions. He writes that ‘This multiplicity of causal linkages – and the absence of a singly,

ubiquitous mechanism – may help account for the analytic muddle, and contradictory findings, of earlier studies.⁵³ Nonetheless, he proposes that the next step ought to be more and better large-n studies.

Gulf Rentiers

My second set of examples is drawn from my work on the Gulf monarchies, in which I find that the most important paths by which rents affect political and economic outcomes are not ones that have been much noticed in the larger literature on the resource curse.

To understand these rentiers, and their place in the resource curse literature, it is necessary to start with a short discussion of how we measure rentierism. Earlier literature on the resource curse employed what we might call fractional measures of rentierism: in Sachs and Warner, the variable measuring rentierism was primary exports as a share of GDP, which also appears in Collier and Hoeffler.⁵⁴ This measure and others like it are deeply flawed, mostly because they measure poverty as much as they measure rents.⁵⁵ Many scholars have instead turned to per capita measures of rentierism so as to disentangle rentierism from poverty.⁵⁶ Countries with high values on per capita (rather than fractional) measures are countries which receive a great deal of per capita rent income from natural resources. The countries at the top of these measures vary according to the type of rent and the year, but Qatar and Kuwait are typically at the top, with the United Arab Emirates (UAE), Brunei and Norway not far behind. When per capita revenues per citizen (rather than resident) are used as the measure, the three Gulf states are clearly the world's richest rentiers.⁵⁷ They are followed by Saudi Arabia, Oman, Trinidad, Libya and Equatorial Guinea. Natural resource exporters at the lower end of the measure include Angola, Australia, Canada, Nigeria and many others.

We have good reasons to pay attention to variations in the degree of rent wealth per capita. The causal effects of oil wealth on political outcomes in a country with \$300 per capita in rent wealth are likely to be very different from the effect on outcomes in a country with \$30,000 per capita in rent wealth. Oil rents might loom large in the political economy of both countries (and certainly in the richer one), but the causal nature of those impacts is likely to be quite different in the two cases. It is not just that the impact of

⁵³ Ibid., p. 62.

⁵⁴ Sachs and Warner, *Natural Resource Abundance and Economic Growth*, p. 8; Collier and Hoeffler, 'Greed and Grievance in Civil War', p. 565. Ross uses a very similar measure in his 2001 piece: Ross, 'Does Oil Hinder Democracy?', p. 338.

⁵⁵ These measures all have a numerator and a denominator. The poorer the country, the smaller the denominator and thus, holding the volume of rents equal, the higher the value of 'rentierism'. Thus oil exports as a share of total exports are higher when countries export very little apart from oil, rents are a higher percentage of all government revenues when there is nothing much else for governments to tax, and so forth.

⁵⁶ For a full discussion, see Michael Herb, *The Wages of Oil: Parliaments and Economic Development in Kuwait and the UAE* (Ithaca, NY: Cornell University Press, 2014), pp. 9–17. See also Michael L. Ross, 'Oil, Islam, and Women', *American Political Science Review* 102/1 (February 2008), pp. 107–23 at p. 121.

⁵⁷ Herb, *The Wages of Oil*, pp. 9–17.

rents increases with the sum of per capita rent income, but that the nature of the causal mechanism differs. This contributes to the causal complexity of the resource curse, and underlines the importance of understanding the specific ways that rents impact outcomes in particularly wealthy rentiers.

In really rich rentiers, one of the most profound impacts of rentierism is on labour markets and demography. Oil wealth has a clear causal role in creating the demographic imbalance – as it is called in the region – between citizens and foreigners. The causal pathway works something like this:⁵⁸

- The three richest Gulf oil exporters enjoy such an abundance of oil wealth that they can hire into public sector positions, as a matter of course, the majority of citizen graduates of secondary schools and colleges, and pay a wage that provides a first-world standard of living.
- The private sector, seeking cheaper labour, imports foreign labour from abroad.
- Foreigners are rarely naturalised, because, in countries in which citizen benefits are paid for through oil revenues rather than taxes, each new citizen increases the number of people amongst whom a limited sum of oil wealth must be divided.

The result is a labour force rigidly divided between citizens and non-citizens, and spectacular demographic imbalances in which non-citizens in the UAE make up 88 per cent of the total population of the country (Qatar is similar; Kuwait has proportionally fewer foreigners).

This phenomenon is central to the political economy of the Gulf states. But it is hardly mentioned at all in the larger literature on the resource curse.⁵⁹ This is probably because the demographic imbalance is thought to be an idiosyncrasy of the Gulf. Yet there is nothing idiosyncratic about a phenomenon that occurs in most of the countries at the top of the measure of rentierism. It is, instead, a characteristic, though not inevitable, consequence of extreme rent wealth, one crucial to understanding how rents affect political and economic outcomes.

Even among the richer rentiers, however, high rent wealth does not invariably cause labour market distortions. Some rich rentiers – a bit less rich than the Gulf monarchies – do not suffer from a demographic imbalance and its associated labour market distortions, and these rentiers include both Norway and Trinidad. (In Norway the public sector, measured as a percentage of employees, is smaller than it is in Denmark.)⁶⁰ There is no doubt that rents are causally implicated in labour market distortions in the Gulf monarchies, but the causal mechanisms that produce these distortions do not operate in all rich rentiers.

⁵⁸ Ibid., ch. 1.

⁵⁹ An exception of sorts can be found in Robinson et al., ‘Political Foundations of the Resource Curse’. But their formal model captures little that is directly relevant to understanding how labour markets affect politics in the Gulf.

⁶⁰ Herb, *Wages of Oil*, p. 187.

What is perhaps most striking, however, is that even in the Gulf monarchies – which are otherwise much like each other – we find sharp variations in outcomes, variations that are the result of further conditionalities in the impact of oil on outcomes. Kuwait has a relatively high level of political participation while the UAE has achieved a remarkable degree of economic diversification. Why this divergence among two otherwise similar states? The answer lies in Kuwait's elected National Assembly, which has had enough political influence to push Kuwait along a very different developmental path from that followed by the UAE and, increasingly, Qatar (neither of which has strong representative institutions). Kuwait citizens rely on oil revenues, via state employment, for the bulk of their income, and thus they have little reason to make the necessary compromises to spur private sector development: this sort of development generates little in the way of taxes and creates jobs for foreigners, not citizens. In the UAE, by contrast, citizens have little voice, so the ruling family and other large capitalists set policies that follow their interests: they allow massive immigration of low-cost labour and promote policies that increase the value of their investments, especially in real estate. In both cases the structure of labour markets is important, but the results differ sharply between the two cases⁶¹ because of variations in who has control over policy making.

Overall, the Gulf monarchies offer a story of causal complexity, one that rivals the sort of causal complexity found by Ross in his case studies of civil wars. Yet much of the existing literature misses the causal mechanisms that drive outcomes in these states. One explanation for this is simply that the lessons of the Gulf monarchies do not easily generalise to a wider array of countries, so the causal mechanisms are thought to be idiosyncratic. The desire for law-like statements that apply across many countries, in this example at least, is an obstacle to understanding the resource curse in the cases that receive the highest levels of rent wealth.

Latin American Populism

A rich vein of work on the resource curse has explored the consequences of rents for democratisation and state capacity in Latin America, and especially Venezuela. Natural resource exporters in Latin America, more so than in the Middle East, have experienced episodes of democracy as well as episodes of authoritarianism, and often the two alternate in countries that are dependent on natural resource rents.

In her 1986 work on Venezuela, Karl argued that 'oil revenues paid the bill for Venezuela's pacted democracy'.⁶² Citing Barrington Moore, she notes that the prospects for democracy are affected by how the landed upper-class in agrarian societies adapts to modernisation. In Venezuela, oil undermined agriculture; traditional agricultural elites became urban elites, losing their rural political power. At the same time, oil fostered the growth of a middle class, but less so a working class. The end result – which depended on other factors as well, and my presentation here does not capture the full richness of the argument – was that Venezuela was able to forge a pacted democracy.⁶³

⁶¹ For a full exposition of the argument see Herb, *Wages of Oil*.

⁶² Karl, 'Petroleum and Political Pacts', p. 215.

⁶³ *Ibid.*, pp. 200–1.

Dunning, in his 2008 *Crude Democracy*, also argues, on the basis of the Venezuelan case, that under some conditions rents can make democracy more likely. The causal mechanism that he identifies occurs when oil revenues are distributed to address the consumption demands of the lower classes. The possibility of distributing oil revenues, rather than redistributing private wealth held by the upper classes, alleviates elite fears that democracy will impoverish them. Thus the upper classes more willingly surrender political power to the lower classes under democracy.⁶⁴ Dunning shows how this works in case studies of three additional Latin American cases (Bolivia, Ecuador and Chile) and one African case, Botswana.

A more recent literature has sought to explain the pattern of the rise of radical left-wing Latin American populism. This literature is less sanguine about the impact of rent wealth on democracy.⁶⁵ In one of the more prominent pieces in this genre, Kurt Weyland argues that rents have allowed some Latin American countries to proclaim ‘a frontal attack on neoliberalism’. Countries with less rent wealth, by contrast, have had to pursue ‘socioeconomic improvements inside the confines of the market system’.⁶⁶ The populist cases are Venezuela, Ecuador and Bolivia; Brazil, Uruguay and Chile are more moderate, while Argentina is ‘oscillating in between’.⁶⁷ The outcome that is explained here is the degree of left-wing tilt in the political system, which is not the same as democracy and authoritarianism; nonetheless, it is clear that the moderate leftists are better for democracy overall.

These explorations of the political consequences of oil in Latin America by Karl, Dunning and Weyland (and others) provide a vivid illustration of the advantages of detailed case studies. Dunning’s argument, for example, is more convincing the closer it is to the cases that inspired it in the first place, notably Venezuela. Oil has, at times, helped to support Venezuelan democracy, but only in ways that are specific to the sort of political context found in South America. Dunning examines several other South American cases, and shows evidence of similar causal mechanisms. The case study of Botswana is thought-provoking and useful, but less convincing. Weyland’s argument about the negative effects of rent income in more recent years, as rents provide space for a turn to the hard left, relies on a context in which there is political tension between the hard left and a more moderate neo-liberal left. The argument does not travel well to Iran or Algeria, though at the same time, by giving a detailed examination of how rents affect politics in one region of the world, it provides us with evocative questions that help illustrate politics in rentiers elsewhere, even if the specific causal mechanisms are different. And, even if it does not travel well, it tells us something interesting and useful about politics in some Latin American countries, which ought to be enough.

⁶⁴ Dunning, *Crude Democracy*, pp. 9–11.

⁶⁵ Hector E. Schamis, ‘Populism, Socialism, and Democratic Institutions’, *Journal of Democracy* 17/4 (2006), pp. 20–34.

⁶⁶ Kurt Weyland, ‘The Rise of Latin America’s Two Lefts: Insights from Rentier State Theory’, *Comparative Politics* 41/2 (2009), pp. 145–64 at p. 146.

⁶⁷ *Ibid.*, p. 145.

The Ontology of the Resource Curse

A final example of the importance of case studies in exploring causal mechanisms lies in the fascinating question – raised by Steffen Hertog – of the comparison between the Gulf rentiers and those of West Africa, especially Equatorial Guinea, where per capita rent income approaches that of the Gulf states. The rulers of the Gulf states have spent generously on the provision of social services to their populations, even while distributing rents to family members. In Equatorial Guinea, the ruling family has largely neglected its population, and its human development achievements do not reflect its rent wealth at all. This is surprising, and not at all the expected result for those familiar with the Arab states of the Gulf. The causal mechanisms identified in the resource curse literature do not give us much traction in understanding this problem, and the very small number of cases poses problems for large-*n* analysis. We are unlikely to understand the diverging performance of Equatorial Guinea and the Gulf states without close and detailed case studies of both regions.

When scholars look at individual cases of rentierism, they often find causal mechanisms through which rents have affected political outcomes. These causal mechanisms, however, often do not travel easily to other regions of the world, to neighbouring countries, or even within one country across time (thus the variation in the effect of rents on democracy over time in Venezuela). This does not mean that rents do not have a political impact: the evidence is overwhelming that they do. What it suggests, however, is that there is a high level of causal complexity in the pathways through which rents affect political and economic outcomes. There are many causal mechanisms at work, and most of them are specific to a subset of all cases – which is to say, they are conditional. The impact of rents, moreover, can be very different in countries that have very high levels of rents (Qatar) and those with lower levels (Angola and Australia). The ontology of the resource curse is a complicated thing.

It is not particularly surprising, on some reflection, that we find so much casual complexity in the resource curse. The literature, it is worth remembering, is about an independent variable. Comparative politics literatures that focus not on independent variables but instead on outcomes (say, democracy) often feature a good deal of equifinality, in the sense that there are sets of causal factors (or paths) that result in democracy. Yet countries that arrive at democracy generally share some attributes. By contrast, an influx of rent income is something that can affect countries across a very wide range of circumstances: it requires no particular level of economic development,⁶⁸ the adoption of no particular political, social and economic institutions, and no sort of common history. The windfall comes from abroad, more or less by geological chance. It stands to reason that the consequences of this income will be decisively shaped by the political, economic and social contexts in place when the windfall arrives, and that there will be a great deal of variety in the nature of these contexts.

⁶⁸ Lower levels of per capita rent income are noticeable only in poor countries, but this makes it more, rather than less, difficult to trace out the negative impacts of rents, since rents have an important role only because the country is poor in the first place.

Methodology and the Resource Curse

John Gerring, in an article in which he questions the vogue for causal mechanisms, argues that ‘the covariational relationship is usually the key component of concern for policy makers’.⁶⁹ Even if we do not know the causal mechanisms, he argues, the net effect of rents on outcomes is what really matters. Gerring cites the literature on the resource curse and democracy as an example.⁷⁰ To illustrate the point further, he draws on a medical example, that of penicillin: the covariational relationship between taking penicillin and no longer being ill is so strong that we can rely on the covariation without a clear grasp of the causal mechanism.⁷¹ The resource curse, however, is not like this, in two crucial respects. In the case of penicillin we can reasonably assume that the causal relationships have the same sign, operate similarly on most people, show some relationship to the dose, and so forth. None of these appear to be the case with the resource curse. Instead, we have a wide variety of causal mechanisms that interact with other variables and have effects that are not all in one direction.⁷² A second difference is also crucial. There are under 200 sovereign states in the world, and only some of these receive significant sums of rent income. If we had many more cases, we could accommodate causal complexity, if only by restricting our datasets to cases in which we have reason to think that a manageable number of causal pathways are at work. In a world with a few thousand countries that receive oil rents on the level of Kuwait, large-n methods might give us more reliable results – or at least would be an improvement on the three or four cases we have now.

Given causal complexity and a limited number of cases, the overall covariational relationship is of interest, but limited interest. Even if we could discern some sort of average of individual causal effects, these effects have such varying impacts across cases that to say anything – or make any coherent policy intervention or recommendation – we need to have a much more detailed understanding of the way that causal mechanisms operate in specific cases.⁷³

⁶⁹ Gerring, ‘Causal Mechanisms: Yes, But ...’, p. 1506.

⁷⁰ Ibid., p. 1507.

⁷¹ Ibid., p. 1505.

⁷² For a defence of the use of large-n methods in the face of causal complexity, see Humphreys, ‘Natural Resources, Conflict, and Conflict Resolution’.

⁷³ This is an observation that has been made previously. Shelton, for example, writes that ‘exploring the conditions under which natural resources lead to good or bad performance is probably more important than proving the central tendency to be positive’. Cameron A. Shelton, ‘Comments [on Lederman and Maloney]’, *Economía* 9/1 (1 October 2008), pp. 44–57 at p. 46.

To be clear, my argument here is not against large-n analysis generally in political science. In many contexts, large-n regressions are a fine tool, especially when the unit of analysis is not the sovereign state. Even in the case of the resource curse, it was not at all wrongheaded to use multivariate techniques to explore the relationships in the data. The landmark studies by Sachs and Warner, Ross, and Collier and Hoeffler are useful and necessary: they apply a common method to an important problem. But it is also necessary to learn from the results, and I think the findings of the larger econometric literature on the resource curse suggest that the method is not well suited to the problem.

Because political scientists are deeply invested in the search for covering-law-type regularities across multiple cases, we privilege research that looks for these laws and claims to find them, even when the evidence of the actual political world suggests to us that these laws in fact are not there. Political scientists would prefer that rents affect political and economic outcomes in ways that are generalisable across space, time and context. The world, however, does not care what political scientists like. The world determines the ontology of the resource curse. If political scientists want to understand these causal mechanisms, we need to adopt methods that fit that ontology. If the causal mechanisms are not in fact operating across a large number of cases, then prioritising generalisability in our theories and methods distorts our understanding of the resource curse, rather than advancing it.

We can see the constraints of large-n methods, and their focus on the overall covariational relationship, quite vividly in the degree to which resource curse ‘pessimists’ embrace the policy implications of their findings. As Waldner and Smith observe, resource curse pessimists rarely take completely seriously the implications of their studies, which is that the oil should be left in the ground.⁷⁴ In almost all cases, indeed, conditionality is embraced and it is argued that states should do what it takes to avoid the curse – although, if the negative consequences of rents are as widespread as some argue, the sensible solution is to leave the oil in the ground rather than chance the harmful consequences.

By contrast, the case study literature has generated knowledge that is more useful in policy making, and more generally in understanding how rents affect outcomes in any particular country. Dunning’s observation that rents can relieve distributional conflicts does not explain all, or even most, rentiers, but it does help a great deal in understanding the effect of rents in Latin American cases. The causal mechanism in Ross’s work on civil wars that is most widely generalisable is that insurgent groups with access to natural resource wealth will stay in the field longer. As Fearon points out, ‘no fancy cross-national research is needed to support or make such an argument plausible’.⁷⁵ But Ross’s point about ‘booty futures’, while applying to many fewer cases, is nonetheless much more fertile from a policy point of view. Preventing even one international oil company from triggering a civil war – as Ross says happened in the Congo Republic – would be a real triumph, even if the

⁷⁴ Waldner and Smith, ‘Rentier States and State Transformations’, p. 723.

⁷⁵ James D. Fearon, ‘Primary Commodity Exports and Civil War’, *Journal of Conflict Resolution* 49/4 (1 August 2005), pp. 483–507 at p. 504.

causal mechanism is relatively rare, or not statistically significant in a large-n regression.⁷⁶ In this case, the ubiquity – or generalisability – of the causal mechanism, which would make it a ‘finding’ of a regression model, really is not the point.

A high degree of causal complexity does not prevent the accumulation of knowledge in the study of the resource curse. The path to this accumulation in case studies of the resource curse lies in developing well-specified causal mechanisms at work in specific cases, then looking at other cases to see if those causal mechanisms are present. Thus, for example, oil distorts labour markets in the rich Gulf rentiers. Does it have a similar effect in Trinidad, Brunei or Norway? If not, why? Using a different example, is the sale of booty futures a possibility in the Syrian civil war? How do some rentiers develop strong state-owned enterprises, while others do not? Does Latin American populism have cognates elsewhere? Why have rich Gulf rentiers provided extensive social services to their citizens while richer African rentiers have not?

This strategy gives us much more material to work with when trying to understand the workings of the resource curse in new rentiers, such as Equatorial Guinea. We might think of the literature as providing an inventory of causal mechanisms to look for across other cases. We would not expect causal mechanisms found in one set of cases to be found in all rentiers, but they will probably illuminate aspects of other cases. And even if they do not operate in the same manner, case study knowledge helps us to understand what to look for in rentiers, and gives us some sense of the universe of possibilities. This achieves an accumulation of real knowledge about the effect of rents on political outcomes while also reflecting the actual ontology of the causal mechanisms of rentierism.

⁷⁶ Ross, ‘How Do Natural Resources Influence Civil War?’, p. 58.

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Kuwait Programme
Middle East Centre
London School of Economics and Political Science
Houghton Street, London WC2A 2AE

@LSEKuwait

lse.ac.uk/LSEKP