TAXATION, NATURAL RESOURCES, AND REPRESENTATION

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Dissertation Abstract and Annotated Chapter Outline

Abstract

This dissertation re-examines the links between the sources of government funding, representation, and accountability and analyzes whether and how the sources of a government's revenues are connected to the behavior of its political actors. I subject our well-trodden theoretical understanding of the relationship between taxation and representative government to several empirical analyses in which both sub-national and national governments experience large, exogenous changes in the origins of their funding. Particular prominence is given to the analysis of democratic governments, in which elections are indicators of representation and at the same time can be tools to enforce accountability.

A source of government revenue that is often cast as the quintessential non-tax revenue or 'windfall revenue' is income from natural resources. There is a general understanding that income from natural resources reduces the need for taxation and as a result arguably provides less reason for publics to demand representation and more opportunity to use these monies for political or personal gain. Yet, the evidence for this claim is rather sparse. Though cross-country empirical evidence does provide reason to believe that natural resource dependence is associated with less democracy (Ross, 2001*a*), some more recent analyses dispute the relationship (Haber and Menaldo, 2011). In order to provide stronger causal evidence of the connection between the composition of government revenue and representation, one would ideally want to observe *exogenous*

changes to the sources of government revenue without accompanying direct effects on the institutional environment. The discovery of substantial natural resource deposits plausibly qualifies.

In the first part of this dissertation, I provide an extended data set of oil production going back to 1918 and re-examine some of the claims made in the resource curse literature. I review the existing literature and find that the way natural resource abundance is measured essentially predetermines the empirical results one obtains. In addition, most of the empirical power of these cross-national analyses is drawn from cross-sectional variation, rather than over time institutional changes as a result of resource wealth, which is at the heart of the argument of the resource curse claim. Almost all the existing analyses rely on data starting in 1970, long after many countries discovered and started producing oil. In an effort to improve these analyses, I collected data on oil discovery and production starting in 1918 for 98 oil-producing countries and find no evidence for the impact of crude oil production on the quality of institutions. Instead, pre-existing institutions (before discovery) appear to be the main drivers for the relationship I observe.

Among the issues arising in many empirical cross-country analyses, including my own, are the use of coarse indices, non-randomly missing data, substantial heterogeneity among countries, and close interactions of politics, institutions, and the economy. Consequently, part two of this dissertation examines whether the negative effects of resource abundance can be found on the sub-national level as well.

For the second part the main empirical case is Brazil, a large democracy and one of the fastest growing oil producers in the world (in 2009 it ranked 9th in the world and produced more oil than Venezuela and Iraq).

Due to the country's federalist structure, petroleum royalties accrue to the federal government and are subsequently partially redistributed to states and municipalities. Interestingly, this redistribution occurs largely based on the geographic distance of the receiving political units from the area of production independent of other factors, such as need or population. While some of Brazil's more than 5,500 municipalities receive over fifty percent of the value of their GDP from natural resource royalties, other nearby municipalities receive no such income - a promising analogy to cross-country analysis. In addition to the geographic assignment of resource royalties I use a change in the distribution of resource royalties to Brazilian municipalities in 1997 to study the effects of external funding on the allocation of local government budgets. I test whether income obtained from royalty payments is spent differently than comparable tax income, and whether these effects differ depending on the local political climate.

I present evidence that while income from both oil royalties and local tax revenue increased spending, the municipal administration chose to apply them to different areas of the budget. Royalty income is found to be associated with spending on administration substantially more than comparable increases in own taxation. In addition, there is some support for the hypothesis that competitive mayoral elections may decrease spending on administration, though similar mediating effects are not observed for other spending categories.

In addition, I use data on randomized audit reports of Brazilian municipalities to investigate whether royalty rich municipalities are more prone to corruption. While I do find evidence that royalty recipients are actually less likely to be found corrupt with regard to their spending from federal grants, I argue that royalty income allows municipal politicians to shift their rent-seeking behavior to revenues from royalties which are not checked by these federal audits and in general are scrutinized less by both government auditors and arguably voters as well.

Though the effects on the allocation of spending are of interest, we are ultimately concerned with whether royalty income translates into an improvement of developmental outcomes such as income, health, education, and housing. Compared to own tax resources, spending generated from royalty income is inefficient in raising the living standards of the citizens in royalty rich municipalities. Comparing royalty rich municipalities to their oil-poor peers, I find that the additional income does increase housing quality, income, and longevity. Education outcomes on the other hand may even be negatively affected by royalty wealth.

In order to probe deeper the connection of taxation and electoral accountability, the final section of the analysis of Brazilian subnational data examines the effects of resource royalties on the electoral prospects of mayors in these royalty rich localities. I find that resource royalties are associated with increased electoral turnout but reduced electoral competition. Royalties decrease the number of candidates running for election and increase the chances to be reelected significantly.

In summary, I find, on the one hand, evidence that access to non-tax resources indeed allows governments to choose inefficient spending patterns and be less concerned about the well-being of its constituents. On the other hand, electoral accountability remains a tool, though weakened, to mediate these negative effects, particularly by informed voters.

Annotated Chapter Outline

Chapter 1: Re-examining the Linkages between Taxation, Representation, and Natural Resources

The introductory chapter reviews some of the main theoretical contributions to our understanding of the relationship between taxation, representation, and accountability. In addition, it outlines an argument based on informational asymmetry between politicians and citizens, helping to theoretically connect non-tax resources to reduced accountability.

Chapter 2: Discovery of Resources as a Source of Exogeneity

Empirically, natural resource abundance has been found to be strongly associated with a host of negative outcomes in cross-country time-series analyses. I review the existing literature and find that virtually all articles employing the ratio of primary commodity exports over GDP as the measure of resource abundance find strong evidence for the 'resource curse' while those using per capita production or reserves as the measure of resource abundance find evidence against the 'resource curse'. Contrary to claims in the literature that institutions are the result of resource abundance, we propose to view the quality of pre-existing intuitions as the origin of natural resource dependence. Natural resource abundance translates into natural resource dependence only in the presence of poor institutions. In an empirical analysis using a panel of 98 oil- producing countries from 1918-2004, I find no evidence for the impact of crude oil production on the quality of institutions.

Chapter 3: Do natural resource royalties make leaders unaccountable?

The peculiar form of resource royalty distribution in Brazil provides an excellent testing ground for the relationship between taxation and accountability. Resource royalties in Brazil accrue to municipalities based on an exogenous, geographically determined rule. I test whether income obtained from royalty payments is spent differently than comparable tax income, and whether these effect differ depending on the local political climate. I present evidence that while income from both oil royalties and local tax revenue increased spending, municipal administrations chose to apply them to different areas of the budget. Royalty income is found be associated with spending on administration substantially more than comparable increases in own taxation. In addition, there is some support for the hypothesis that competitive mayoral elections may decrease spending on administration, though similar mediating effects are not observed for other spending categories.

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Chapter 4: The effect of resource royalties on public goods provision

The efficient use of limited government resources to provide public goods is a vexing issue, in particular for many developing countries. In the previous chapter, I present evidence that while royalty rich municipalities exhibit above average increases in areas of administrative spending, royalty payments increase spending in all areas of the municipal budget, including education and culture, health and sanitation, and housing and urbanization. In this chapter, I analyze whether these increases translate into the desired outcomes for the developmental outcomes that ultimately matter, such as literacy rates, child mortality, income, and the quality of housing. I find mixed success with regard to the resources applied from natural resources royalties. Low quality housing improves, school fees drop, and income and longevity rise in municipalities with large royalty incomes. Educational outcomes, on the other hand, seem not to benefit from the largesse or are even negatively affected.

Chapter 5: Resource wealth and electoral competition

Having discussed the allocation and effects of spending in the previous chapters, this section focuses on the political effects of natural resource income. Using electoral data on 45,000 mayoral candidates in four municipal elections (1996 - 2008), I estimate whether incumbent mayors in royalty rich municipalities have a higher chance to be re-elected. I employ a regression discontinuity design and a comparison of repeated candidate pairs to estimate the effect of incumbency. I find that resource royalties are associated with increased electoral turnout but reduced electoral competition. Royalties decrease the number of candidates running for election and increase the chances of incumbents to be reelected significantly.

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