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# Taxation of natural resources and economic growth in Russia's regions



CONOMIC SYSTEMS

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#### ABSTRACT

We examine the impact of natural resources on economic growth in Russia's regions since the introduction of the mineral tax in 2002. Using novel measures of regional natural resource rents (mineral tax collections), we demonstrate that non-hydrocarbon wealth has had a slightly positive and hydrocarbon wealth has had no to a slightly negative effect on regional growth since 2002, although mineral-rich regions are richer than other regions. The absence of significant growth benefits to resource-endowed regions is at odds with the beneficial impact of natural resources, and particularly hydrocarbons, on the growth of the country as a whole. We discuss the reasons for this outcome and conclude that the central government was successful in taxing away incremental regional resource rents during 2002–2011, while preserving the pre-2002 regional rents.

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#### 1. Introduction

The effect of natural resources on economic growth is usually examined in the framework of the "resource curse" hypothesis. This hypothesis states that natural resource abundance leads to slower long-term economic growth. Usually this claim pertains to the so-called point-source resources such

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http://dx.doi.org/10.1016/j.ecosys.2014.10.007 0939-3625/© 2015 Elsevier B.V. All rights reserved. as oil or minerals rather than diffused resources such as high quality agricultural land.<sup>1</sup> With a few exceptions, this literature has focused on country-level comparisons, presumably because of better data availability and because some of the transmission mechanisms such as the Dutch Disease can be most readily analyzed at the country level.<sup>2</sup> While most of the pre-2009 empirical literature on the resource curse finds that oil and other point-source resources do impede growth, several recent papers show rather convincingly that this is not typically the case.<sup>3</sup> Russia represents one of the clearest examples of an economy whose growth since 1998 has benefitted greatly from commodity price increases, particularly those for oil and natural gas, despite the relatively poor quality of its institutions.<sup>4</sup>

One difficulty with using country-level data, however, is that countries differ along many dimensions, including history, culture, geography, institutional quality and macroeconomic policies. Although some of these differences can be viewed as time-invariant and can be accounted for by fixed effects, this is certainly not true for all of them. At the same time, these differences are often hard to measure, and as a result the empirical work could suffer from omitted variable biases. For this reason, a few recent papers have focused on the empirical investigation of the effect of natural resources on economic growth at the regional level of large federal economies such as the US (Papyrakis and Gerlagh, 2007; James and Aadland, 2011), China (Fang et al., 2009) and Russia (Desai et al., 2005; Lugovoy et al., 2007; Freinkman and Plekhanov, 2009a,b; Libman, 2013). Regional level analysis offers certain advantages because even in large countries, the differences among regions in history, culture and institutions, not to mention the effects of macroeconomic policies, are usually not as great as the differences among countries. This consideration may make it easier to isolate the effects of natural resource endowments on regional economic performance.

However, the fact that regions belong to the same country may also result in economic and institutional quality convergence, blurring some of the differences that would exist if the regions were separated by meaningful international borders. A significantly more important problem with using regional data to study the effect of natural resources on economic growth is that natural resource rents could (and perhaps should) be channeled away from the resource-rich regions mainly by the central government's taxation, but also by the transfer of profits away from the resource-rich regions by mining firms. We note, however, that the profit transfer is likely to be less important than taxation, because if mining companies were appropriating large rents in a region, they would have strong incentives to invest more there, presumably promoting regional growth.<sup>5</sup> As we will demonstrate later, this does not appear to be the case.

The main goal of this paper is to examine the impact of natural resource wealth on economic growth in Russia's regions, concentrating in particular on the degree to which the federal government has been able to tax away the regional natural resource rents, and especially oil and gas rents, mainly due to the unique system of taxation of oil extraction. Our results can also be viewed as a test of the regional "resource curse" in Russia.

Compared to the regionally focused papers referenced above, our contributions include the use of more recent data (namely, 2002–2011) and a novel approach to evaluating the amount of natural resource rents produced in, but not necessarily accrued to, regional economies.

The use of recent data is particularly important in the case of Russia because of a substantial reform of Russia's fiscal federalism arrangements and the apparent strengthening of the federal center more

<sup>&</sup>lt;sup>1</sup> The hypothesis of the "curse" of natural resources has been studied, both theoretically and empirically, in a vast literature starting at the latest with Auty (1993) and Sachs and Warner (1995). Mehlum et al. (2006) and Tornell and Lane (1999), among others, present theoretical arguments with some empirical estimates. Sala-i-Martin and Subramanian (2003) provide one of the more comprehensive empirical works. Alexeev and Conrad (2009a) present a dissenting view, arguing that oil and mineral resources do not impede long-term economic growth and do not worsen institutional quality. Frankel (2010) presents a recent survey of this literature.

<sup>&</sup>lt;sup>2</sup> However, see Papyrakis and Raveh (2014) on the empirical analysis of a regional Dutch Disease.

<sup>&</sup>lt;sup>3</sup> In addition to the already mentioned work by Alexeev and Conrad (2009a), see Brückner et al. (2012), Brunnschweiler (2009) and Alexeev and Conrad (2011). All these papers show that natural resources, particularly "point-source" ones, actually promote long-term economic growth, and the latter two papers demonstrate this for economies in transition in particular.

<sup>&</sup>lt;sup>4</sup> See Kubiniwa (2012) and the references therein for estimates of the positive relationship between international oil prices and GDP growth in Russia.

<sup>&</sup>lt;sup>5</sup> We will return to the interpretational issue of the link between economic growth and resource rents in Russia in Section 3.

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