Resources Policy 38 (2013) 138–151

Contents lists available at SciVerse ScienceDirect

Resources Policy

journal homepage: www.elsevier.com/locate/resourpol

The fate of the poor in growing mineral and energy economies ☆

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ARTICLE INFO

Article history:
Received 31 May 2011
Received in revised form
22 July 2012
Accepted 8 October 2012
Available online 21 December 2012

JEL classification:
C33
C35
O13
O50
Q33

Keywords:
Pro-poor growth
Mining
Energy
Poverty
Inequality
Resource curse

ABSTRACT

There are frequent suggestions that countries specializing in mineral and energy extraction have a type of growth that is bad for the poor. Others claim that extraction-led growth is particularly good for the poor. Both claims are made without the support of substantial empirical evidence. This paper uses longitudinal data on income growth by quintile in 57 developed and developing countries to statistically assess how mineral and energy extraction has affected the relationship between growth and the poor. We can find no evidence that the data support either the claim that extraction-led growth is good for the poor or that extraction-led growth is bad for the poor. This finding does not rule out that extractive activity can have special positive or negative impacts on the poor in some countries or regions. Rather, it simply brings to light that such effects are not evident as a persistent statistical phenomenon in the national level data that are available, which may be why the debate tends to move along without resolution.

> The economic plight of Botswana's poor has worsened as a direct consequence of the mining sector's success. Curry (1987, p. 1).

> Mining can contribute to poverty reduction in a variety of ways. … In countries such as … Botswana…, substantial positive fiscal impact from mining has contributed to economic and social development. Weber-Fahr et al. (2002, p. 442).

Introduction

This paper empirically investigates whether economic growth in countries that have substantial mineral or energy extraction has a greater or lesser tendency to be pro-poor than in countries that have less extractive activity. Several political scientists and non-governmental organizations claim that extraction activity and extraction-led growth are particularly bad for the poor. The World Bank and the mining industry, and to a more muted extent the oil and gas industry, counter-claim that extraction-led growth has for the most part been good for the poor. The claims on both sides are largely being made without the benefit of substantial empirical investigation. To paraphrase Sherlock Holmes, one should never theorize before one has the facts. Given the absence of clarity on the impacts of extraction on the poor, there have been calls from both sides for more research on the issue (e.g., Weber-Fahr, 2002; Karl, 2007; Ross, 2007).

Our empirical examination of the available data finds no statistically significant positive or negative impact of the level of resource extraction on the pro-poor nature of economic growth. That is, the relationship between positive or negative growth and changes in the welfare of the poor are not conditional on the level of extractive activity in a country. There is, however, evidence that countries with *growing* extractive activity have a higher probability of a pro-poor outcome during a given positive or negative growth spell.[1] The statistical significance of this result is weak enough that we do not see it as confirming the industry position. While normally an empirical analysis that fails to find any statistically significant pattern in the data would be considered uninformative, in this case, the results recommend caution

☆We thank C. Shelley Norman, three referees, and participants at the 2008 meetings of the International Association for Energy Economics in New Orleans and Perth for helpful comments on and criticisms of earlier drafts.

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[1] A growth spell is defined as positive or negative economic growth between two periods in time, and represents one data point.

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http://dx.doi.org/10.1016/j.resourpol.2012.10.002

when designing national development policies around claims that mining and energy extraction has special positive or negative impacts on the poor.

A review of the claim and counter-claim

Mineral and energy extraction can have both concurrent and lagged impacts on a nation's economic and social outcomes. Most research to date has focused on the lagged relationship between an initial and possibly ephemeral extractive boom and the rate of economic growth or development over subsequent decades. That research is largely supportive of a "resource curse," whereby future economic growth and human development is impeded by earlier extractive activity.[2]

With regard to concurrent impacts, which are of interest here, there is a strongly held belief that mineral and energy dependence "produce a type of economic growth that offers few direct benefits to the poor," and "make pro-poor forms of growth more difficult" (Ross, 2001, p. 16).[3] Mineral and energy economies have experienced positive long-run economic growth as their extractive sectors develop and expand (Alexeev and Conrad, 2009), and growth tends to be good for the poor (Dollar and Kraay, 2002; Kraay, 2006; World Bank, 2001). The anti-extractive literature simply counters that economic growth in extractive economies is not as good for the poor as it is in non-extractive economies, and may even be anti-poor. This is then proposed to be the cause for the high rates of poverty and inequality found in the developing nations that are intensive producers of minerals and energy. The alleged negative impacts variously include a higher probability of increasing income inequality, decreasing employment and real income for the poor, and decreasing public sector expenditures on health care and public education. On the other side of the debate, the International Council on Mining and Metals, a mining-industry-sponsored organization, is bullish on the prospects for mining-led reductions in poverty and illustrates its point through an investigation of selected case studies (McPhail, 2008, 2009). The oil and gas industry's support for extraction and poverty reduction takes the form of full-page advertising in the popular press and statements on their corporate web pages.

In this tug of war the negative views have predominated. At the beginning of the century recommended policy varied, but in some cases was as drastic as calls for a complete overhaul of the state apparatus regulating mining and energy production and the diversification away from non-renewable extractive activity. Exemplifying the bite of these calls for reform, the World Bank, a traditional supporter of mining and energy projects in developing countries, initiated internal and external reviews of the wisdom of such support (World Bank, 2003). The external review suggested that the Bank's support for coal mining and petroleum extraction be phased out due to their negative effect on poverty. Even so, the World Bank has continued to promote mining and energy extraction as having positive concurrent impacts on the poor.[4] Current thinking on the general matter of extraction and the poor is strongly centered on the role of transparency, institutions and capacity building, with additional suggestions to develop agriculture and rural non-resource sectors to improve employment opportunities for the poor (Africa Development Bank, Organization for Economic Cooperation and Development, United Nations Development Programme, and United Nations Economic Commission for Africa, 2011; Hilson and Maconachie, 2009; McFerson, 2009; Pegg, 2009; World Bank, 2012).

The literature on resource extraction and the poor

Cross-country econometric analyses have found that *on average* the incomes of the poor rise with rising average incomes (e.g., Dollar and Kraay, 2002; Kraay, 2006). As Ravallion (1997, p. 1812) notes, "An average is just that," and there are certainly countries in which the income of the poor has fallen despite long periods of positive economic growth (Lal and Myint, 1996; Page, 2006).[5] The early analyses of disparities in the impacts of growth on poverty did not find any statistical regularity that explains the relatively high variation in cross-country poverty outcomes for a given growth rate (Chen and Ravallion, 2001; Dollar and Kraay, 2002). Notably, they did not single out mineral and energy extraction as being a significant determinant of the disparate outcomes. This leads Kraay (2006, p. 220) to state that "the search for pro-poor growth should begin by focusing on determinants of growth in average incomes," rather than focusing on idiosyncratic sectoral effects. [6] White and Anderson (2001) suggest that any sectoral influences are likely to be country-specific and thus not broadly evident.

An anti-poor bias in extractive-country growth may nevertheless arise due to a series of concurrent dynamic sectoral mechanisms as the extractive resource sector grows and Dutch Disease pressures ensue. These mechanisms have been loosely suggested to be: A crowding out of environmental resources, like fresh water, that the poor rely upon (Amuzegar, 1999; Curry, 1987; Power, 2008; Slack, 2009); downward pressure on wages due to a capital-intensive export base (Lal and Myint, 1996, pp. 187–188); displacement-induced poverty as landowners are resettled (Downing, 2002); and a reduction in agricultural sector jobs through Dutch disease effects, agriculture being a sector that is suggested to have special importance in reducing poverty (Ross, 2007; World Bank, 2008). Extraction-led or accompanied growth is also suggested to result in a reduction in manufacturing jobs that favor women, older workers and the poor (Collier, 2007; Ross, 2004a, 2007). Some empirical studies have found manufacturing-led growth to be especially favorable to the poor (Birdsall and Londoño, 1997a, 1997b), though others have not (Ravallion and Datt, 1996; White and Anderson, 2001). On a positive note, extraction takes place mainly in rural areas. Improvements in poverty have been shown to be realized when

[2] See Davis and Tilton (2005), Frankel (2010), and van der Ploeg (2011) for a review of the literature and theories relating to the resource curse. Recent empirical investigations suggest that the resource curse may be a statistical artifact (Brunnschweiler and Bulte, 2008; Lederman and Maloney, 2007; van der Ploeg and Poelhekke, 2010) or at least only a short-run problem during periods of declining extractive output after the initial resource boom (Alexeev and Conrad, 2009; Davis, 2011; James and James, 2011).

[3] See also Christian Aid (2003), Curry (1987), Karl (2007), Africa Development Bank, Organization for Economic Cooperation and Development, United Nations Development Programme, and United Nations Economic Commission for Africa (2011), Page (2006), Pegg (2006), Power (2002, 2008), Ross (2003), UNCTAD (2002).

[4] See Weber-Fahr (2002), Weber-Fahr et al. (2002) and Pegg (2003) for a review of the Bank's traditional position regarding mining and energy extraction and the poor. The World Bank's response to the Extractive Industries Review can be found at http://siteresources.worldbank.org/INTOGMC/Resources/finaleirmanagementresponse.pdf.

[5] Page (2006) measures progress for the poor as increasing income of the bottom quintile, while Ravallion (1997) defines the poverty rate as the headcount index of those living on less than $1/day at 1993 Purchase Power Parity.

[6] Kraay's sample contains many mining and energy economies, including Nigeria, Chile, Indonesia, Niger, Venezuela, and Peru. Visual inspection of the residuals in the middle panel of his Figure 4 does not reveal any particular clustering of the these economies as outliers. Nor does Lal and Myint's (1996) case study analysis identify extractive economies as being subject to any systematic deviation from the normal growth and poverty reduction relationship.