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Mining, regional development and benefit-sharing in developed countries ☆

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ABSTRACT

The objective of the paper is to synthesize the existing empirical research on mining, regional development and benefit-sharing in developed countries. Specifically, the paper presents a review of the literature addressing how the regional development impacts of mining ventures (e.g., employment multipliers) can be comprehended and assessed empirically, as well as the role of various benefit-sharing instruments in generating a more inclusive development. These issues are investigated in the context of selected practical experiences in four high-income mining countries (Australia, Canada, Chile and the USA). Important issues and challenges that deserve increased attention in future research are identified. These include, for instance, the relationship between mining competitiveness and benefit-sharing, and the efficient use of regional development investment funds.

Introduction

Background and motivation

The way in which mining ventures contribute to economic development in the region where they take place is important for the mining industry's relations to the local community. In this paper we address two related challenges for researchers, companies and policy makers: (a) how to assess and comprehend the regional and local impacts of mining ventures; as well as (b) understanding the role of various benefit-sharing mechanisms in generating more inclusive development.

Since the beginning of the 2000s the global mining industry has experienced a boom; it has witnessed soaring output prices and therefore also rising profit levels. Fig. 1 exemplifies this by displaying the development of copper and gold prices over the time period 1991–2012. Overall metal and mineral prices were depressed during the 1990s, but increased significantly from the mid-2000s and onwards. The reason for the price soars has been high growth rates in the Asian economies, not the least China and India. The elevated output prices make exploration activities more attractive and the profitability of new mining ventures increases.

Fig. 2 shows the number of new mines that have opened in different country categories worldwide over the time period 2000–2013. It displays that since the mid-2000s the number of new mines has increased significantly, and this has particularly been the case in high-income countries such as Australia, Canada, USA, Russia and Chile. These five countries alone have accounted for 38% of the new mining ventures over the period. The mining boom has also led to substantial mining investment in several upper middle-income countries, including Brazil, South Africa, Mexico, China, and Kazakhstan. In low-income countries, though, the soar in mineral prices has not led to a similar profound growth in mining investment. A few important exceptions include India, Ghana, and Congo where a number of new mines have opened since 2000.

However, in the developed world mining often takes place in relatively remote regions, and host communities in countries with substantial mining investment (e.g., Australia, Canada, etc.) have increasingly emphasized the need for a more even sharing of the benefits of mining ventures (e.g., O'Faircheallaigh, 2013). In addition, the environmental costs associated with mining ventures are largely of a local nature,[1] and may not be outweighed by the mines' contributions to economic development in the affected regions. The focus

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[1] They can also continue to accrue to the community long after the closure of the mine (e.g., IIED, 2002a).

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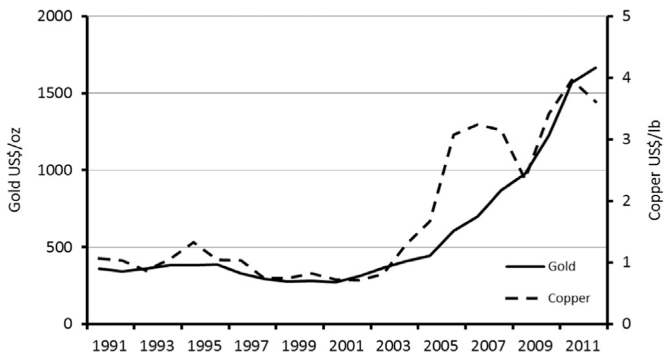

Fig. 1. The development of gold and copper prices, 1991–2012 (current prices). Source: British Columbia Ministry of Energy and Mines Statistics (2013).

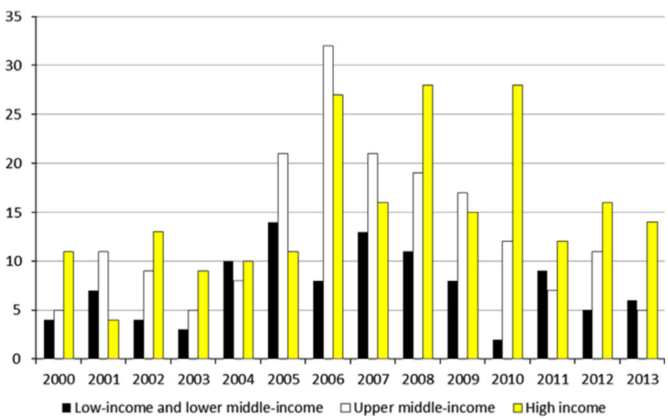

Fig. 2. Number (Counts) of new mine openings in different country categories worldwide. Note: World Bank income classification of countries as of July 2013. Source: Database provided by the Raw Materials Group.

on a more inclusive mining sector also stems from the growing assertion of the rights of people and demands for more direct participation in decision-making processes (Humphreys, 2000). Unless the above concerns are recognized in mineral development projects, community relations may become tense and lead to costly conflicts as well as to other types of business risks for the companies.

The World Economic Forum (2013) points towards an increasing number of conflicts and disagreements related to mining ventures during the last decade (see also Özkaynak et al. (2012)). For these reasons several companies as well as governments in resource-rich countries have embraced the need for mineral ventures to gain a 'social license' to operate, i.e., a broad approval and acceptance of society towards these ventures that goes beyond the requirements of formal licenses. Regional development and benefit-sharing are often essential components of such an informal license (e.g., Williams, 2012; Prno, 2013).

The regional-economic impacts of mining ventures are far from straightforward to assess, not the least since falling transport costs and technological progress have led to projects that sometimes are increasingly economically detached from the regions in which they are located (e.g., Eggert, 2001). The mining ventures have over time grown substantially more capital-intensive (thus reducing the need for local labor). The inputs into the contemporary ventures must also satisfy very high technological standards, which cannot necessarily be supplied competitively by local firms. As a consequence, most of the returns to capital and to entrepreneurship may flow out of the affected region. This has in turn led to fears of so-called 'fly-in fly-out' work practices, i.e., where long distance commuting replaces in-migration (World Bank, 2010). Still, in other instances mining has been shown to ignite significant economic development around technological innovation, new products, technology transfer etc. (e.g., Archibald and Ritter, 2001). The development of a cluster of economic activities surrounding mining ventures can be an important way of providing socio-economic benefits to a region since this allows for economic diversification.

As a response to the recent boom and with mining ventures sometimes lacking the appropriate regional linkages, different stakeholders (including local and regional governments) have pushed for more sustainable mining models (Di Boscio, 2010). Humphreys (2002) argues that sustainable mining development needs to depart from the regional level, and the new mining models include the implementation of various benefit-sharing mechanisms that can catalyze a broader-based development at the regional level. Some of these mechanisms have been initiated voluntarily by companies, but in several cases governments have enacted legislation to facilitate for affected regions and/or indigenous people to receive mining benefits. These policies involve, for instance, mineral taxes and royalties earmarked for local investment funds, joint ventures, local procurement, employment quotas, training of staff etc. (Bocoum et al., 2012; World Bank, 2010).

During recent years several regional benefit-sharing mechanisms have been introduced in mining regions in, for instance, Australia, Canada, Chile and the USA. Our understanding of how well the new strategies have addressed long-term community concerns is, however, still limited, and best practices have only recently begun to evolve. The above illustrates the societal importance of an improved understanding of mining projects' impacts on regional economic development, including the options, trade-offs and challenges associated with different types of benefit-sharing instruments and agreements.

Objective and approach

The overall objective of this paper is to provide a synthesis of the existing research on mining, regional development and benefit-sharing in developed countries. Specifically, we present a review of the literature addressing how the regional development impacts of mining ventures can be comprehended and assessed empirically, as well as how wider regional development concerns can be addressed through various types of benefit-sharing mechanisms. We analyze these issues in the context of some practical experiences in important mining countries such as Australia, Canada, Chile and the USA, and the focus lies on identifying important issues and methodological challenges that deserve increased attention in future research.

A number of related reviews on the mining, regional development and/or benefit-sharing can be found in McMahon and Rémy (2001), Eggert (2001), Fischer (2007) and Bocoum et al. (2012). Still, the present paper differs from earlier reviews in a number of respects. First, we provide an updated review of research addressing both the nature of the regional-economic impacts as well as mechanisms that can boost these impacts. Second, we highlight a number of generic challenges in attaining more inclusive mining ventures, and provide some key lessons from recent practical examples in developed mining countries. An important finding is that this is still an under-researched field, e.g., with little insights gained on the relative merits of different types of benefit-sharing mechanisms. For this reason we focus primarily on the use of investment funds to promote regional development, for which some key lessons can be drawn, as well as on communicating important methodological and empirical implications for future research.

Scope and limitations

Empirically the focus of this paper is primarily on economic development at the regional level, thus addressing employment opportunities and income growth. Such impacts represent a very significant part of the regional benefits of mining. We therefore devote little