

ECONOMIC EFFECTS OF RESOURCE BOOMS: How being located near mines hurts manufacturers but improves the local business environment

Producers of tradable goods close to areas of mining activity have lower sales because of infrastructure bottlenecks and competition for workers, but the revenue that mines generate improves the local environment for businesses. These are among the conclusions of research by **Ralph De Haas and Steven Poelhekke**, to be presented at the annual congress of the European Economic Association in Geneva in August 2016.

Their study combines European Bank for Reconstruction and Development (EBRD) and World Bank business data from 22,150 firms in eight countries with large manufacturing and mining sectors (Brazil, Chile, China, Kazakhstan, Mexico, Mongolia, Russia and Ukraine) with a geographical database of 3,793 mines producing 31 different metals and minerals.

The data show that many firms complain of competition with the mines for access to inputs, labour and infrastructure. They also experience congestion and infrastructure bottlenecks. Proximity to mining stunts their growth: moving a producer of tradable goods from a region without mines to a region with average mining intensity would reduce sales by 10% on average. Local firms that supply mines or use their outputs benefit, but they tend to be small enterprises.

The overall impact is negative, consistent with the theory of 'Dutch disease', in which resource booms drive up costs for firms in the traded (manufacturing) sector. On the other hand, mining revenue spent on goods, services and public goods in the region improves the business environment in a distance band of between 20km and 150km around firms.

The authors conclude: 'To minimise negative spillovers from mining, policy-makers could think about ways to let local producers share extraction-related infrastructure. Policy-makers can also help firms to become 'fit to supply' local mining-related supply chains.'

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The researchers outline their findings: the last two decades have witnessed an extraordinary expansion in global mining activity, an increasing share of which is concentrated in emerging markets. The world's largest mines can nowadays be found in Africa, Asia and Latin America.

This mining boom has reinvigorated debate about the impact of mining on economic activity and welfare in 'host' countries. Our research informs this debate by estimating the impact of active mines on nearby firms across eight countries with large manufacturing and mining sectors: Brazil, Chile, China, Kazakhstan, Mexico, Mongolia, Russia and Ukraine.

Two core results emerge from our analysis. First, we find that producers of tradable goods that are close to active mines report tighter business constraints (compared with similar firms that are not close to mines). These firms compete with the mines for access to inputs, labour and infrastructure and experience congestion and infrastructure bottlenecks.

This also stunts the growth of these firms, because they cannot pass on higher costs to their global consumers: they generate less employment, sell fewer goods and own fewer assets. The effects are economically quite large: moving a producer of tradable goods from a region without mines to a region with average mining intensity would reduce sales by 10% on average.

In contrast, up- or downstream firms in the natural resource sector itself that sell goods and services to mines directly or use their raw materials as inputs, and firms in the construction and non-traded sector, actually benefit from local mining activity. But because most local firms are small-scale manufacturers, we find that the net average effect is negative in the immediate vicinity of mines.

Second, because mining generates revenue that is eventually spent on goods, services and public goods in the region, we find that current mining activity improves the business environment in a distance band of between 20 and 150 kilometres around firms. This indicates that while mines can cause infrastructure bottlenecks in their immediate vicinity and crowd out other firms, they may improve the business environment on a wider geographical scale.

Our empirical analysis is motivated by the ‘Dutch disease’ model which sets out how a resource boom drives up costs for firms in the traded (manufacturing) sector as they compete for labour with firms in the resource and non-traded sectors. The effect may be attenuated by regional migration of workers.

We test this model by combining two datasets. First, we use detailed data on 22,150 firms from the EBRD-World Bank Business Environment and Enterprise Performance Survey (BEEPS) and the World Bank Enterprise Survey. These data contain the responses of firm managers to questions on the severity of various obstacles to the operation of their business, including access to transport infrastructure and electricity, the availability of educated workers, the cost of land, and access to finance.

Second, we use comprehensive information on the geographical location and operating status of 3,793 mines producing 31 different metals and minerals in our country sample.

Our findings contribute to a better understanding of how mining activity affects local businesses in developing countries. To minimise negative spillovers from mining, policy-makers could think about ways to let local producers share extraction-related infrastructure.

This may reduce the infrastructure bottlenecks and congestion effects that we observe in the data. Insufficient transport, electricity, water and other enabling infrastructure may not only help local goods producers but also further stimulate local services sectors and clusters of down and upstream industries that are related to mines.

Policy-makers can also help firms to become ‘fit to supply’ local mining-related supply chains. These measures can help meet the preconditions for a resource boom to trigger positive long-term impacts.

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Mining Matters: Natural Resource Extraction and Local Business Constraints

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