

# Beyond the 'Resource Curse' at Macro level: Local impacts of mining and adolescent childbearing

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# The Natural Resource Curse

Concept introduced in early 90's and popularized by Sachs and Warner (2001) >2,600

From Wikipedia...

“The **resource curse**, refers to the paradox that **countries and regions** with an abundance of natural resources, specifically point-source non-renewable resources like minerals and fuels, tend to have less economic growth and worse development outcomes than countries with fewer natural resources”

Literally, hundreds of papers addressing the issue, with opposite findings and conclusions...



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# Resource Intensity, Institutions, and Development

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**Summary.** — We examine the relationship between resource abundance and several indicators of human welfare. Consistent with the existing literature on the relationship between resource abundance and economic growth we find that, given an initial income level, resource-intensive countries tend to suffer lower levels of human development. While we find only weak support for a direct link between resources and welfare, there is an indirect link that operates through institutional quality. There are also significant differences in the effects that resources have on different measures of institutional quality. These results imply that the “resource curse” is a more encompassing phenomenon than previously considered, and that key differences exist between the effects of different resource types on various aspects of governance and human welfare.

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# The resource curse revisited and revised: A tale of paradoxes and red herrings

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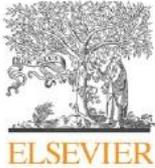
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## Abstract

We critically evaluate the empirical basis for the so-called resource curse and find that, despite the topic's popularity in economics and political science research, this apparent paradox may be a red herring. The most commonly used measure of “resource abundance” can be more usefully interpreted as a proxy for “resource dependence”—endogenous to underlying structural factors. In multiple estimations that combine resource abundance and dependence, institutional, and constitutional variables, we find that (i) resource abundance, constitutions, and institutions determine resource dependence, (ii) resource dependence does not affect growth, and (iii) resource abundance positively affects growth and institutional quality.



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## The curse of natural resources: An empirical investigation of U.S. counties<sup>☆</sup>

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## Do resource dependent regions grow slower than they should?

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### ABSTRACT

A large literature documents a negative correlation between income growth and resource dependence. This correlation has been named the resource curse. We present evidence that suggests that the resource curse can be explained by a slow growing resource sector.

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## Natural Resources: Curse or Blessing?

***“In sum, the effects of natural resources on the economy vary from country to country and across different episodes in history”***

Andrew E. Clark, Paul Fajnzylber, and Michael A. Shleifer  
Relative Income, Happiness, and Utility:  
An Explanation for the Easterlin Paradox and  
Other Puzzles

Gérard Roland  
A Review of James Kernal's *By Force of Thought*

*Just especially if institutions are bad, induces corruption especially in nondemocratic countries, and keeps in place bad policies. Finally, resource rich developing economies seem unable to successfully convert their depleting exhaustible resources into other productive assets. The survey also offers some welfare-based fiscal rules for harnessing resource windfalls in developed and developing economies. (JEL O47, Q32, Q33)*

***“... [to better understand the resource curse] The road forward might be to exploit variation within a country where variables that might confound the relationship between resources and macroeconomic outcomes do not vary and the danger of spurious correlation is minimized”***

Tinbergen Institute, CEPR and CESifo. I am grateful to the editor Roger Gordon, two anonymous referees, Rabah Arezki, Maarten Bosker, Erwin Bulte, Paul Collier, David Hendry, Torfinn Harding, Roland Hodler, Mansoob Murshed, Steven Poelhelcke, Radek Stefanski, Tony Venables, David Vines, Klaus Wälde, Ceses Withagen, Aart de Zeeuw and participants of the CESifo Area Conference on Public Sector Economics, 21–23 April 2006, Munich, the 6th Annual Meeting of the EEPF, Sofia, 2007, the 10th Anniversary Conference of the Global Development Network,

2–5 February 2009 and seminars at the Kiel Institute of World Economics, EUI, ISS, The Hague, Erasmus University Rotterdam, Amsterdam, Tinbergen Institute, Tilburg, Pisa, Oxford University, Cambridge University, ETH Zurich, University of Birmingham and University of Nottingham, and from participants in courses at Oxford University, the Tinbergen Institute and the International Monetary Fund for many helpful comments and suggestions. This work was supported by the BP funded Oxford Centre for Analysis of Research Rich Economies.

# The Resource Curse Hypotheses / Channels

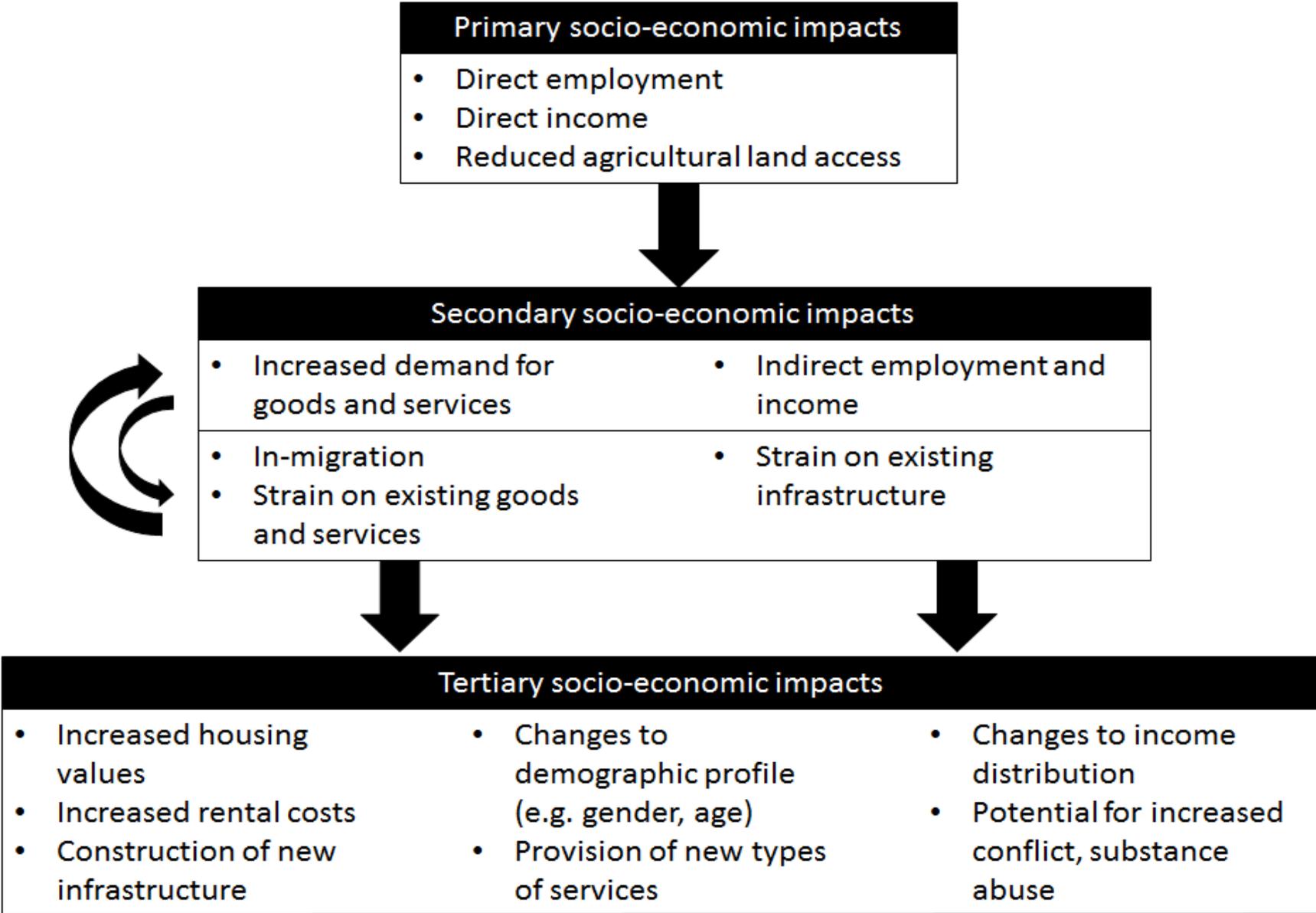
- **Dutch disease** -- adverse effects through real exchange rate appreciation that a boom can have on various export and import-competing industries (Corden, 2012)
- **Loss of learning by doing** → **National dimension**
- **Poor institutions**
- **Authoritarian political systems**
- **Corruption**
- **Anticipation of better times and negative genuine savings** → **Generally, national**
- **Volatility of international commodity prices**
- **Rent seeking behaviour**
- **Unsustainable policies** → **National but also distinctive regional dimensions**
- **Labour demand shock** → **Regional dimension**

# The labour demand shock

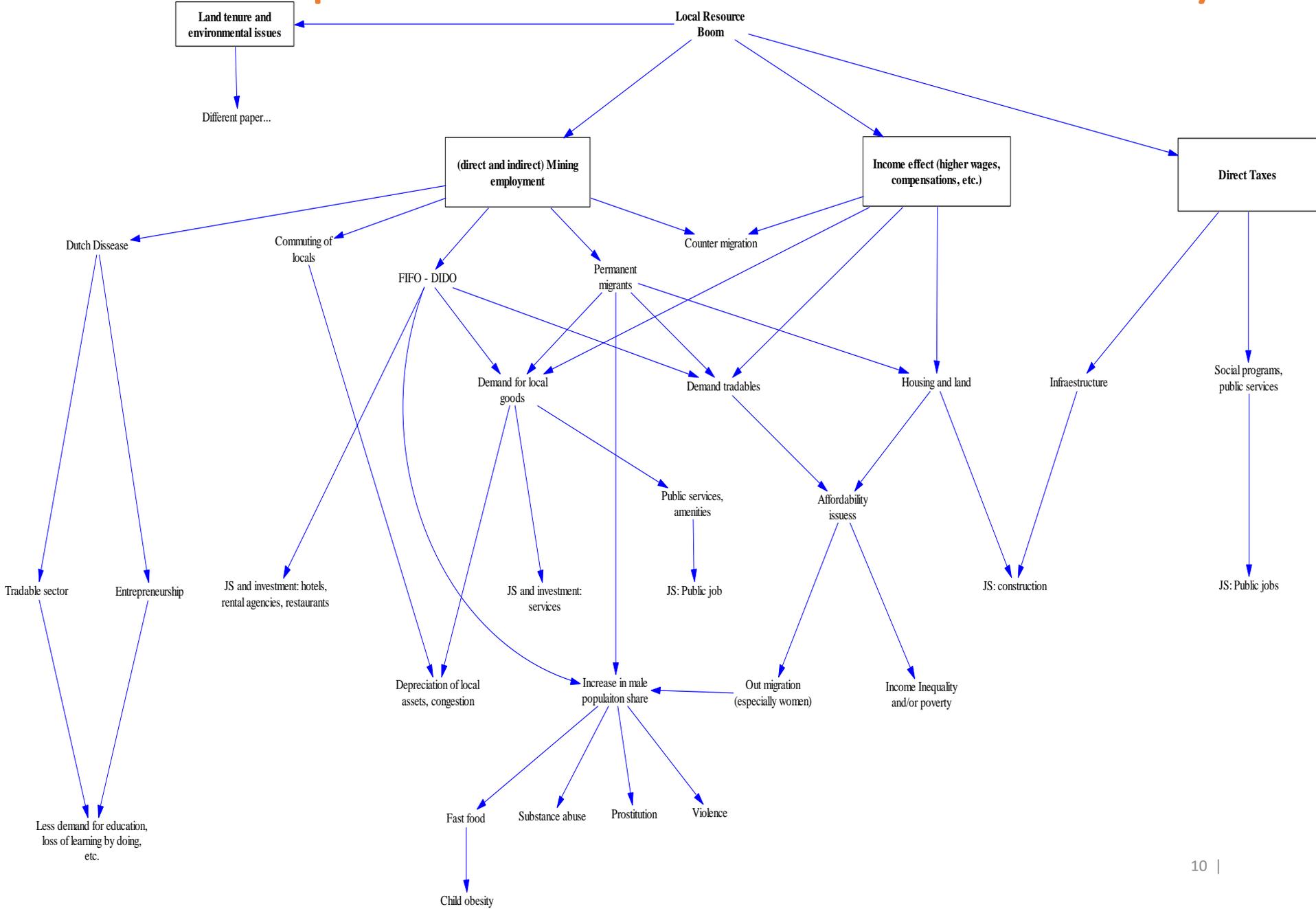
National effects negligible, while regional effects are critical

- Consequential effects: job spillovers, crowding out, agglomeration and income effects
  - Job spillovers are generally expected in non-tradable goods sectors
  - Crowding out affects mainly the tradable goods sector (manufacturing, agriculture)
  - Agglomeration effects will be given by population movement and investments
  - Income effects will come from salaries, compensation and similar income
- RC or blessing? Will depend on how these effects play out

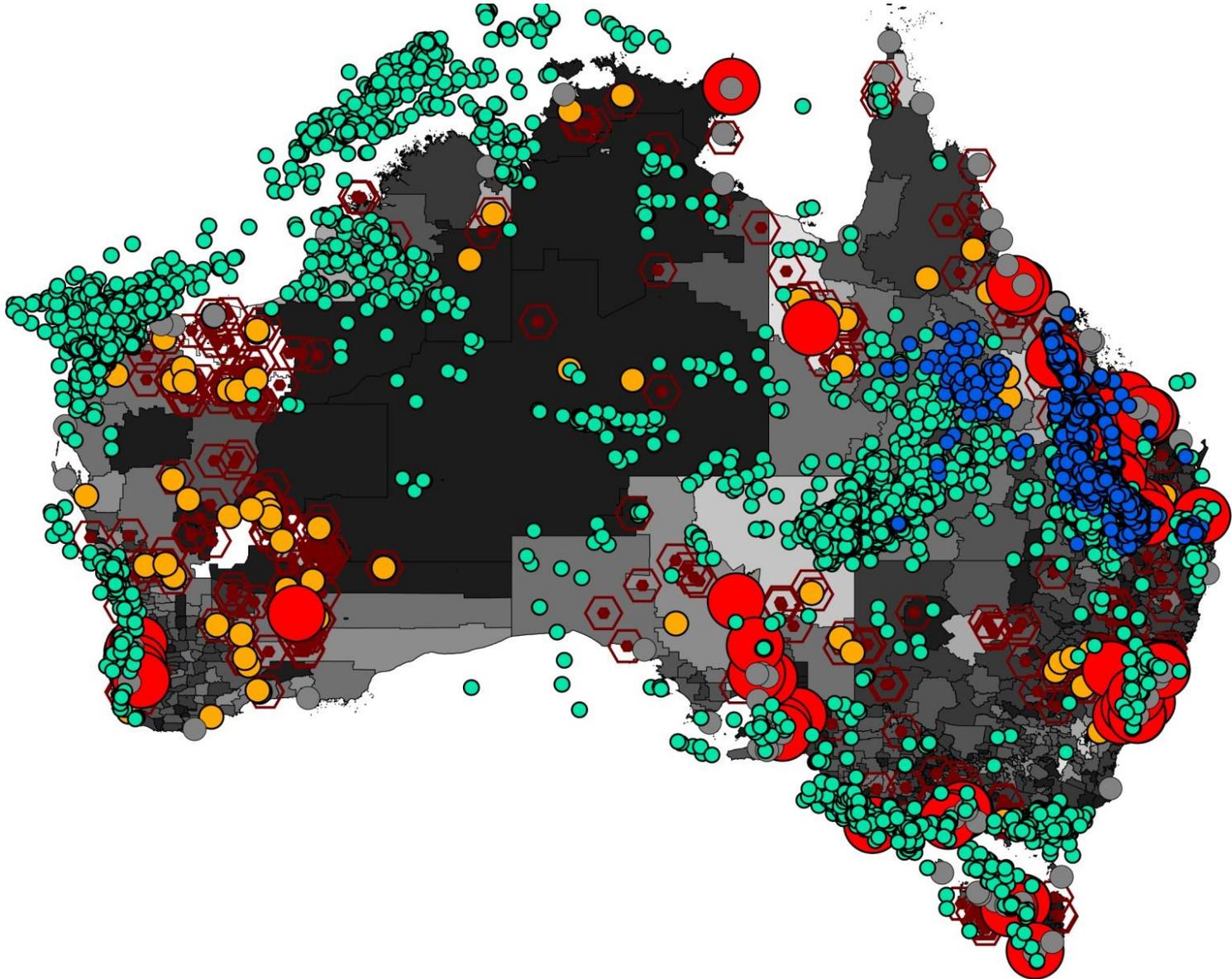
# Consequential effects



# Local consequences of resource extraction activity



# Mining activity in Oz



# Methods

Econometric specifications using sub-state regions as observations

Data from Census 2011

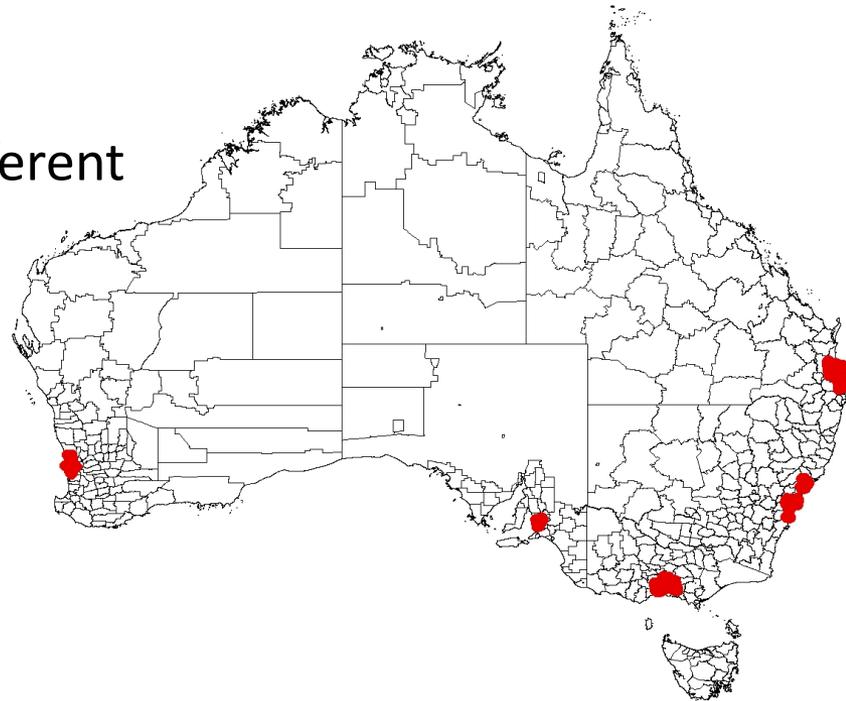
Variables:

- Dep Variable: 'Mining Influence' measure, given by Proportion of population living in the 5 Km radio of an operating mine

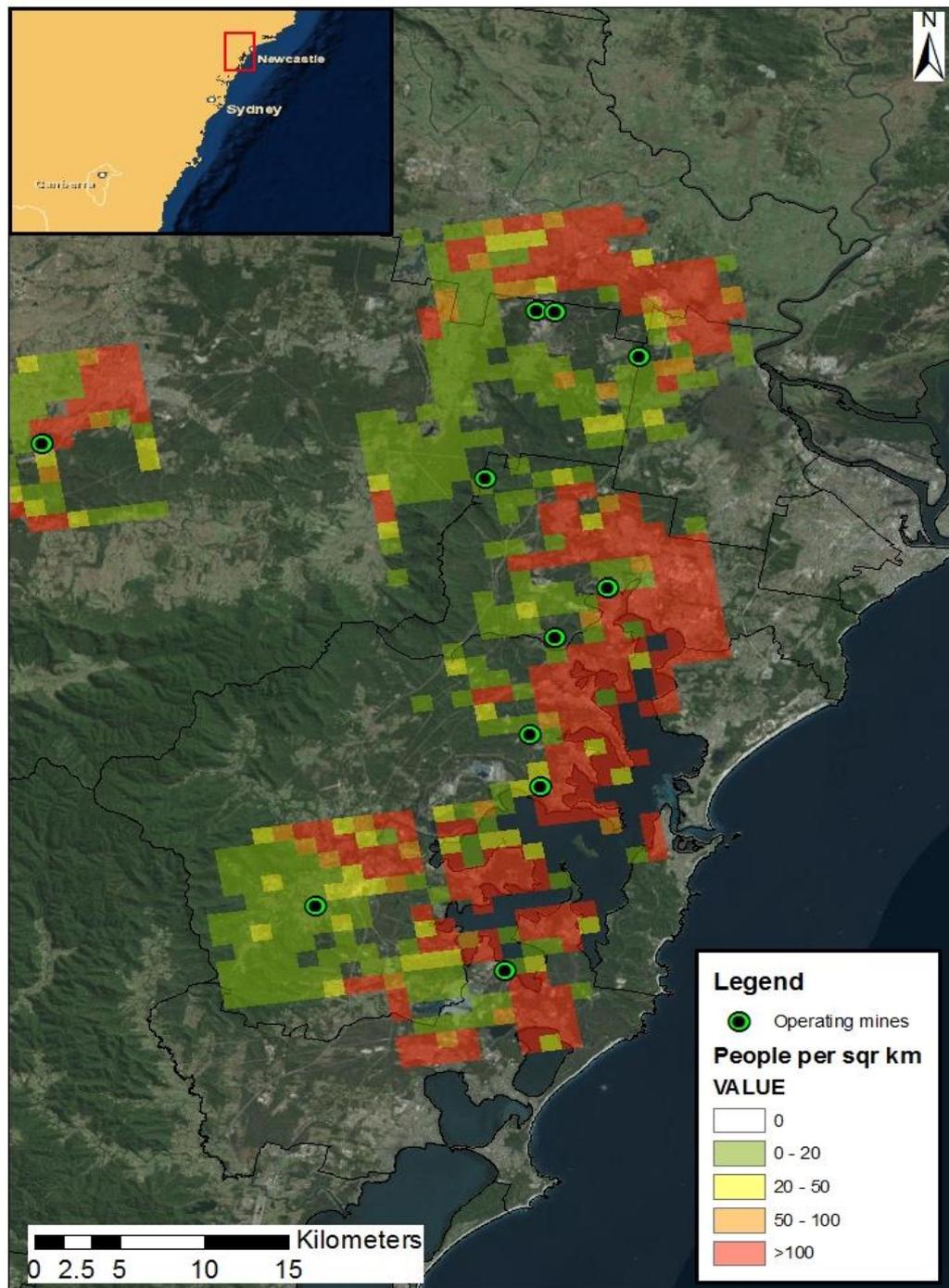
- Control variables:

Parsimonious model expanded with different variables...

- Socioeconomic characteristics
- Demographics
- Location / Isolation



# Methods



# Results

	(1)	(2)	(3)	(4)	(5)
	Model	Model	Model	Model	Model
Mining influence	5.829***	5.864***	6.126***	3.014*	3.365**
	(2.031)	(1.902)	(1.822)	(1.579)	(1.539)
Log of population			-0.778**	-0.243	-0.055
			(0.315)	(0.294)	(0.239)
Median family income			-0.004***	-0.004***	-0.001*
			(0.001)	(0.000)	(0.001)
Prop of pop with bachelor degree			2.576	6.257	5.976
			(4.741)	(4.112)	(4.209)
Prop of male population					6.093
					(9.418)
Prop of aboriginal population					16.559***
					(6.212)
Disadvantage index					-0.008
					(0.008)
Suburban regions				-0.324	0.101
				(0.249)	(0.257)
Rural regions				-0.078	0.224
				(0.473)	(0.467)
Remote regions				1.313	0.437
				(0.876)	(0.991)
Very remote regions				7.985***	1.572
				(1.334)	(1.096)
State/territory fixed effects	No	Yes	Yes	Yes	Yes

# Conclusions and implications

- Causes?
  - More males, more income
  - Less education
  - More perceived safety nets
  - Lack of abortion clinics? More catholicism?
- We need to think about the Resource Curse in a more integral way:
  - As a system of interconnected factors spanning *different* scales
  - Some intended and some unintended, could be net positive or negative

The 'demand labour shock' is key, and is linked to socioeconomic consequences such as

- Migration and long distance commuting (Measham *et al.* 2013)
- Housing issues (Haslam McKenzie and Rowley 2013; Neelawala *et al.* 2013)
- Crime, alcohol abuse and other related boomtown effects (Lawrie *et al.* 2011)
- Income inequality changes, especially in women (Reeson and Measham 2012)
- Early childbearing (Fleming *et al.* *forthcoming*)

# Thank you

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