Beyond the ‘Resource Curse’ at Macro level: Local impacts of mining and adolescent childbearing

David A. Fleming

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...
Resource Intensity, Institutions, and Development

ERWIN H. BULTE
Tilburg University, Netherlands

RICHARD DAMANIA
University of Adelaide, Australia

and

ROBERT T. DEACON *
University of California, Santa Barbara, USA

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

Christa N. Brunnschweiler\textsuperscript{a,\ast}, Erwin H. Bulte\textsuperscript{b,c}

\textsuperscript{a}CER-ETH Center of Economic Research at ETH Zurich, Switzerland
\textsuperscript{b}Development Economics Group, Wageningen University, The Netherlands
\textsuperscript{c}Department of Economics, Tilburg University, The Netherlands

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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

Alex James, David Aadland

Department of Economics and Finance, University of Wyoming, Laramie, WY, United States

Do resource dependent regions grow slower than they should?

Alexander G. James, Robert G. James

Department of Economics, University of Wyoming, Laramie, WY 82071-3985, United States

Department of Economics, California State University, Chico, Chico, CA 95928, United States

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

“... [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”
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

Primary socio-economic impacts
- Direct employment
- Direct income
- Reduced agricultural land access

Secondary socio-economic impacts
- Increased demand for goods and services
- In-migration
- Strain on existing goods and services
- Indirect employment and income
- Strain on existing infrastructure

Tertiary socio-economic impacts
- Increased housing values
- Increased rental costs
- Construction of new infrastructure
- Changes to demographic profile (e.g. gender, age)
- Provision of new types of services
- Changes to income distribution
- Potential for increased conflict, substance abuse
Local consequences of resource extraction activity

- Local Resource Boom
  - (direct and indirect) Mining employment
    - Income effect (higher wages, compensations, etc.)
      - Permanent migrants
      - Counter migration
      - Housing and land
      - Infrastructure
      - Income inequality and/or poverty
      - Direct Taxes
    - Public services, amenities
      - Affordability issues
      - JS: Public job
      - JS: construction
  - Demand for local goods
  - Demand tradables
    - Public services, amenities
    - Affordability issues
    - Out migration (especially women)
    - Income inequality and/or poverty
  - Fast food
  - Substance abuse
  - Prostitution
  - Violence
  - Child obesity
  - Depreciation of local assets, congestion
  - Increase in male population share

- Land tenure and environmental issues
  - Different paper...
- Tradable sector
- Entrepreneurship
- JS and investment: hotels, rental agencies, restaurants
- JS and investment: services
- Infrastructure
- JS: Public jobs
- Social programs, public services
- Out migration
  - especially women
- Housing and land
- Income inequality and/or poverty
- Depreciation of local assets, congestion
- Increase in male population share
- Fast food
- Substance abuse
- Prostitution
- Violence
- Child obesity
- Less demand for education, loss of learning by doing, etc.
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

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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

David A. Fleming, PhD
Research Economist

t +61 2 6246 4302
m +61 4 7736 4517
e david.fleming@csiro.au
w www.csiro.au