
Development Policy

NATURAL RESOURCES AND THE RESOURCE CURSE

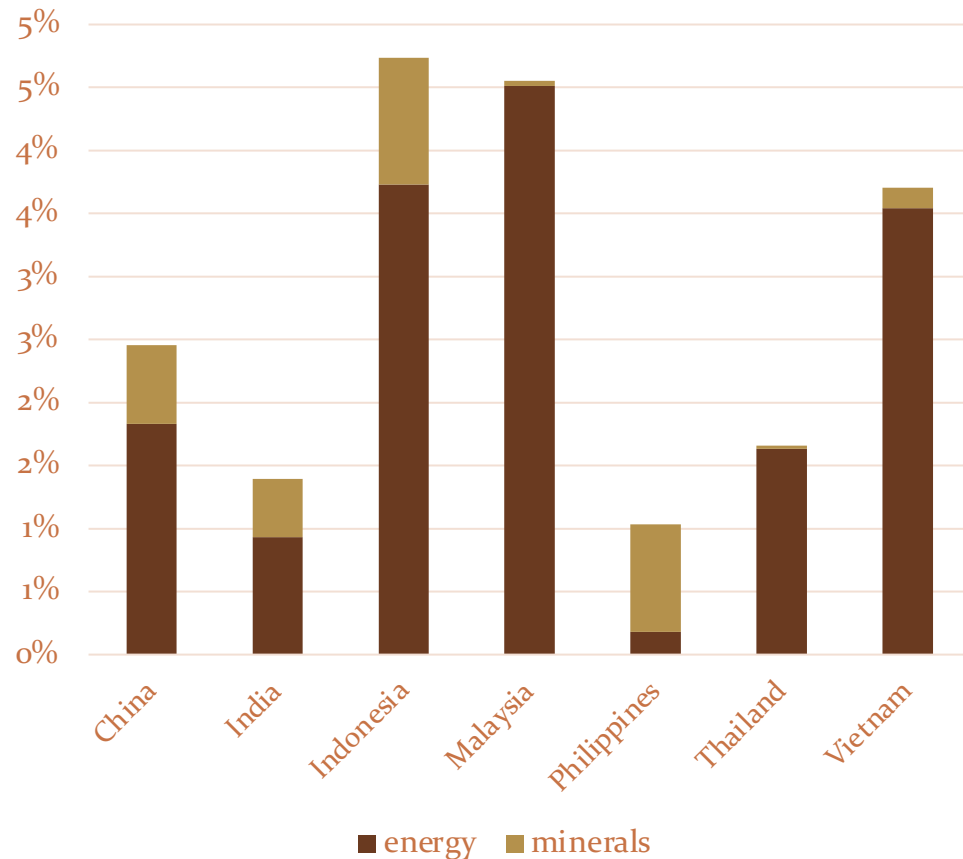
“Dutch disease” a hardship or an advantage



Groningen gas fields

- 1959 Groningen gas fields discovered. Generated 500 billion euros in income in real terms for the Netherlands 1963-2017 (equal to GDP for the whole year of 2017)
- But unemployment increase in 1970s and economists blamed an overvalued Dutch guilder for lack of investment and trade deficit
- Also thought that extra income from gas spent on nontradeables pushed up prices
- Was gas a “disease” or a windfall?

Southeast Asia: Indonesia, Malaysia and Vietnam as resource rich economies

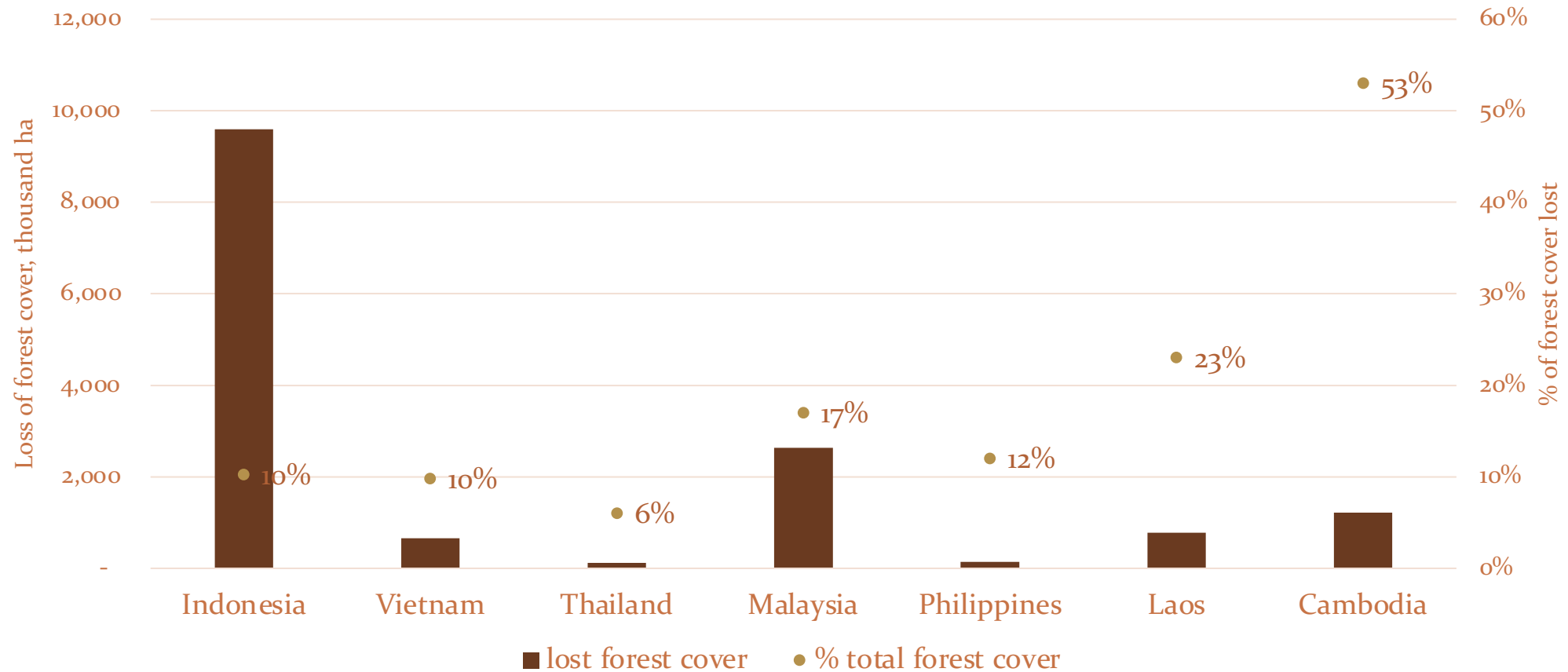


- Indonesia and Malaysia: Do not publish data on forest exploitation
- Malaysia and Vietnam export oil, Indonesia is a net oil importer but produces natural gas and coal
- Indonesia is world's largest nickel producer

Deforestation driven by expansion of agriculture and industry

- Expansion of palm oil production in Indonesia and Malaysia and coffee in Vietnam
- Furniture exports from Vietnam increases pressure on Lao and Cambodian forests
- Development of hydropower and other large infrastructure
- Environmental impact: loss of biodiversity, flooding, CO₂ emissions from peat fields, haze

Loss of forest cover 2002-2019



Brazil's Amazon: Deforestation 'surges to 12-year high'

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Amazon fires



Scientists say the Amazon has suffered losses at an accelerated rate since Jair Bolsonaro took office

Deforestation of the Amazon rainforest in Brazil has surged to its highest level since 2008, the country's space agency (Inpe) reports.

A total of 11,088 sq km (4,281 sq miles) of rainforest were destroyed from August 2019 to July 2020. This is a 9.5% increase from the previous year.

The Amazon is a vital carbon store that slows down the pace of global warming.

Scientists say it has suffered losses at an accelerated rate since Jair Bolsonaro took office in January 2019.

The Brazilian president has encouraged agriculture and mining activities in the world's largest rainforest.

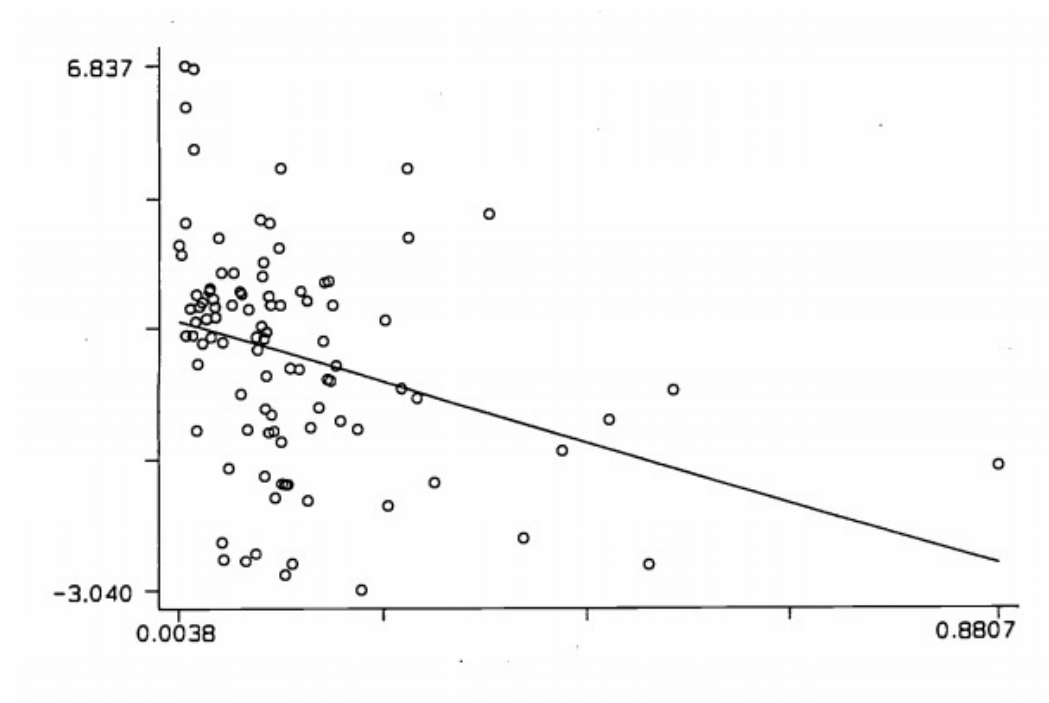
Agriculture's encroachment on the forest is a worldwide problem

Staples thesis: Resource exports and linkages to manufacturing

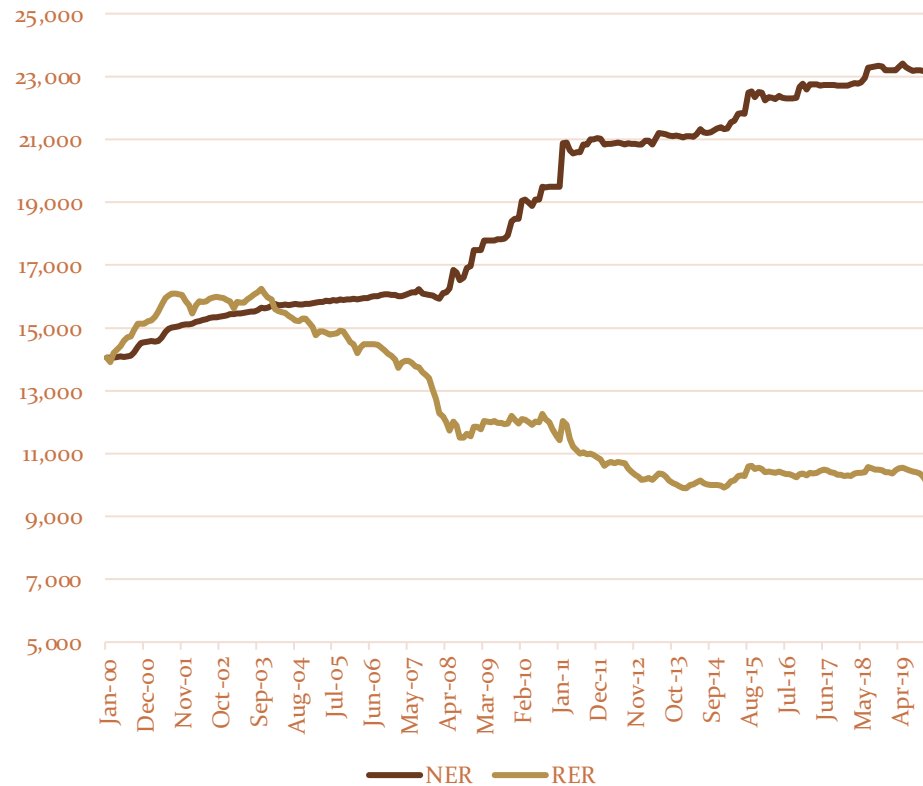
- Harold Innis: Canadian regions developed different economic and political institutions related to their main export commodity: for example fish (North Atlantic) vs wheat (western provinces)
- US: Cotton production in south linked to manufacturing in east and wheat production in west
- Argentina: Specialized in cattle and wheat until Great Depression but did not diversify into manufacturing
- Hla Myint “vent for surplus” in Southeast Asia: Production of export crops employed underutilized land and labor to generate capital for investment

Sachs and Warner 1995: Natural Resource Abundance and Economic Growth

- Countries with abundant natural resources grow more slowly
- Abundant natural resources associated with slower growth of manufacturing, and therefore slower technological change
- Abundant natural resources leads to the “Dutch disease”
- Other authors focus on the political economy of abundant natural resources: the rentier state



Real exchange rate

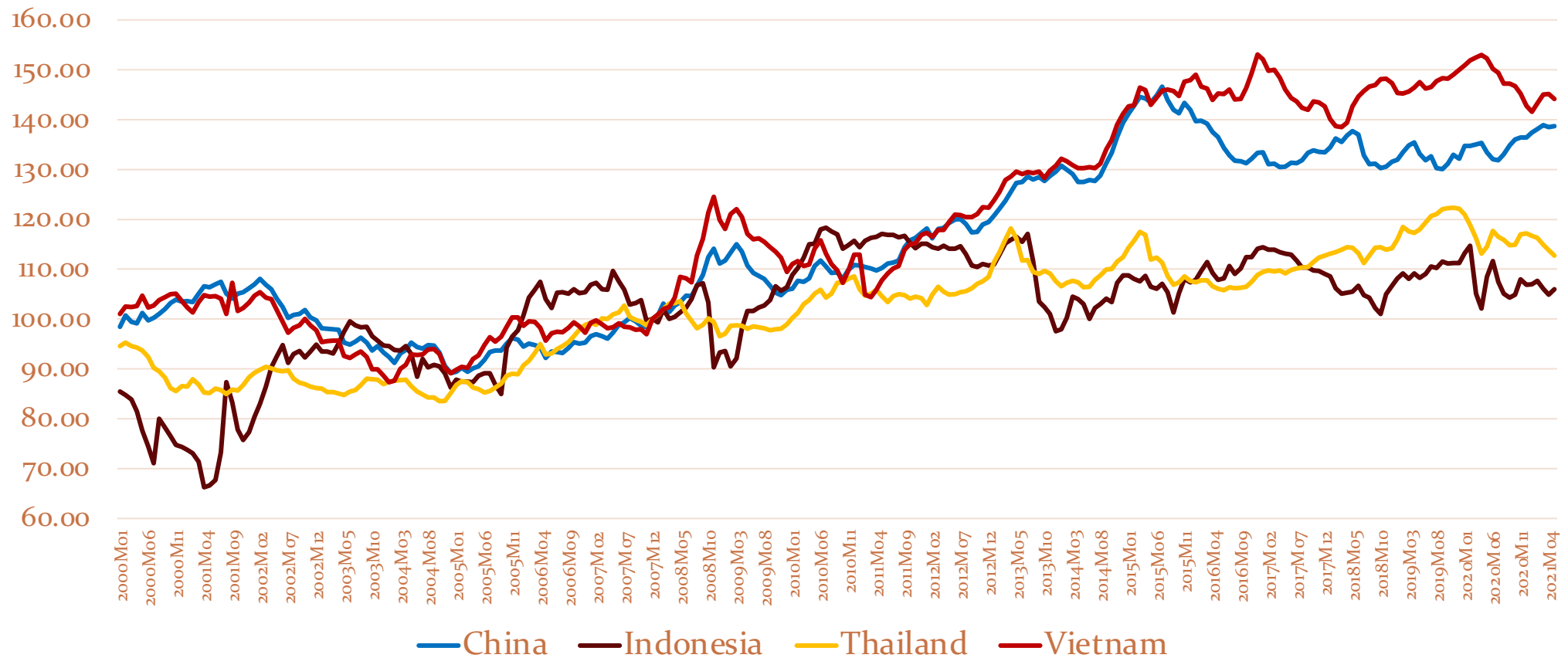


real exchange rate

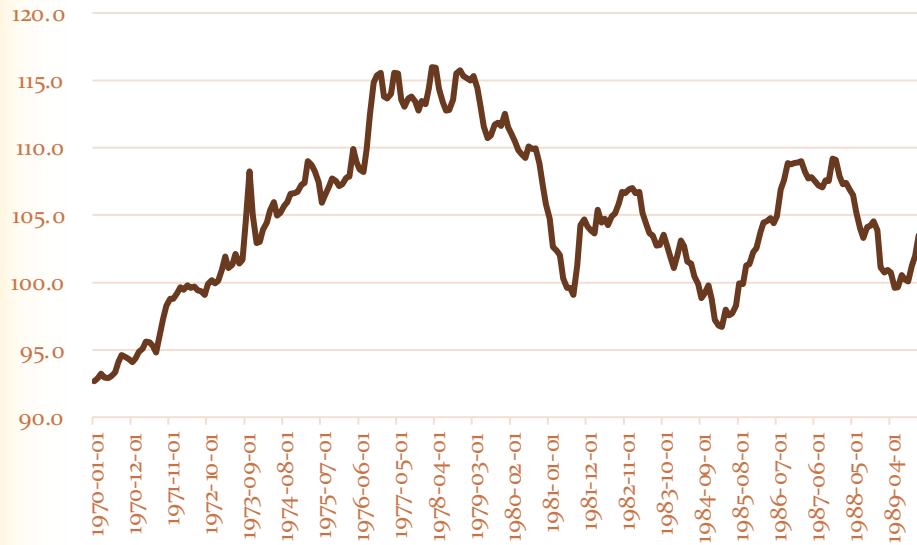
$$= \text{nominal exchange rate} \left(\frac{\text{Prices country A}}{\text{Prices country B}} \right)$$

Example of Vietnam: Real exchange rate against US dollar has appreciated since 2004 as prices in Vietnam have risen faster than in the United States

Real effective exchange rates (2007=100)



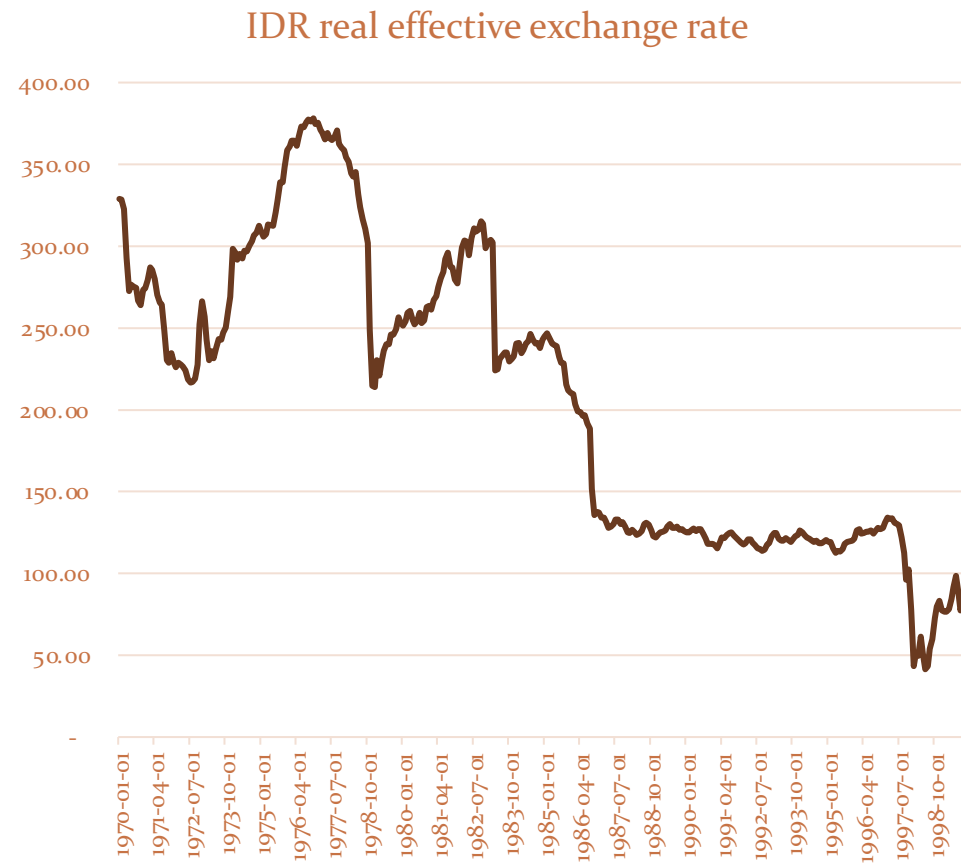
The Dutch disease



Real effective exchange rate for the Dutch guilder, 1970-1989

- Appreciation of the exchange rate (fewer guilders per US dollar)
- Manufactured and agricultural exports more expensive
- Government reduced interest rates to weaken currency but this accelerated inflation
- Netherlands had rising income with rising unemployment and prices

Indonesia's Dutch Disease



- Oil price rocket in 1973 and 1978, leading to exchange rate appreciation
- Indonesia invested oil revenues in agriculture and infrastructure
- Fall in oil prices in 1980s forced Indonesia to devalue the rupiah to make manufactures and agricultural products more competitive
- Indonesia largely avoided the negative effects of the Dutch disease in the 1970s

Economic rents

- Assuming competitive markets, the rate of profits in any given industry will be equal.
- Super-profits (higher than normal) are “economic rents” which may be due to monopoly or other kinds of barrier to entry
 - A monopoly can set prices and therefore can earn higher profits than normal, for example a railroad that runs between two large towns
 - Companies that can stop other companies from entering the sector may not be monopolies but also earn rents: Microsoft
 - Companies that control scarce natural resources earn “resource rents” after the costs of extracting, refining and shipping have been deduced
- How resource rents are distributed determines whether exploitation of natural resources contributes to economic development

The rentier state

- When governments fund themselves from resource rents they do not need to keep citizens happy – not dependent on taxes
- Abundant resource rents increase demand from elites for access to public resources
 - Non-productive spending (consumption) of resource rents to satisfy political demands from powerful groups, regions
 - Corruption resulting from ability of powerful elites to redirect resource rents to their control
- In extreme cases, abundant natural resources can increase political violence if elites cannot agree on distribution of rents

Is there really a resource curse?

- Selection bias: Countries appear to be resource dependent because they failed to develop manufacturing and agriculture, not because they have resources → resource abundance vs resource dependence
 - Malaysia is not considered resource dependent because it diversified its economy with export-oriented industry and agriculture
 - Angola only has oil, not because it has oil, but because it failed to develop agriculture and industry
 - The United States is a resource abundant country but not classified in that way because it has a diversified economy
- Are resource abundant countries more corrupt than other countries?
- Do natural resource abundant countries save less of national income?

Growth and corruption in mineral abundant and other developing economies

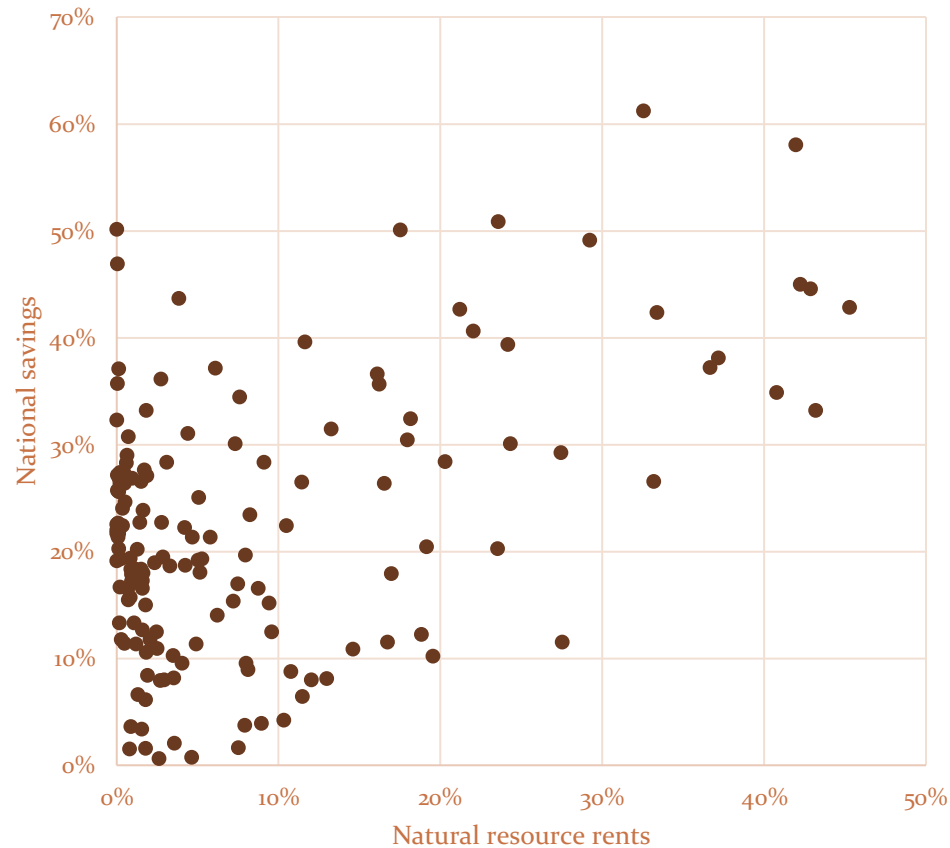
	Mineral-abundant Developing Countries (13 observations)	Non-mineral Abundant Developing Countries (19 observations)
1965–1990		
Median GDP growth rate (range)	4.3 (2.5 to 12.4)	5.6 (1.5 to 9.5)
Median corruption index 1980–1985 (range)	3.9 (0.2 to 6.5)	3.6 (0.7 to 8.8)
1990–2000		
Median GDP growth rate (range)	4.0 (1.6 to 7.0)	3.7 (–0.6 to 10.3)
Median corruption index 1996 (range)	3.3 (0.7 to 6.8)	3.2 (1.0 to 5.0)

Sources: World Bank, *World Development Indicators*, various years; Transparency International, *Corruption Perception Index*, various years.

Notes: A corruption index of 10 indicates minimum corruption, an index of 0 indicates maximum corruption. *Mineral abundant* is defined as those economies where mineral or fuel exports in total exports are equal or greater to 35 percent in 1980; *non-mineral abundant* is defined as those economies where mineral or fuel exports in total exports are less than 35 percent in 1980.

Source: Di John (2011) “Is There Really a Resource Curse? A Critical Survey of Theory and Evidence, *Global Governance*.”

Savings and natural resource rents as share of GDP, 1990-2018



- Positive relationship between national savings and resource rents as share of GDP
- Underperformers, low saving rate but high levels of resource rents
- No systematic relationship between low savings and abundant natural resources
- Challenge is to reinvest rents into long-life productive assets

Policy implications

- Economists traditionally thought of abundant natural resources as good for growth (Myint and Vent for surplus)
- But more recently economists have seen abundant natural resources as a curse because of Dutch disease and the rentier state
- These problems are not inevitable: Depends on conditions specific to each country
- All countries need to manage resources more carefully: In Southeast Asia the issue is largely about management of forests