Natural Resources: Curse or Blessing?

Trinidad & Tobago, February 2014
Outline

The natural resource paradox

Dutch disease

The Norwegian paradox

Natural resources governance: sustainability and the new paradigms
The Natural Resource Paradox

• Countries with abundant natural resources, tend in average to grow less than countries with few natural resources

• That phenomenon happens with particular emphasis in countries with non renewable natural resources, like minerals and oil

• Why is that?
The Natural Resource Paradox

The rate of growth of per capita income is lower for resource-dependent economies than for non-resource-dependent economies.

Example:

• X-Land has no mineral resources and has a rate of growth of per capita GDP of 2.5%

• Y-Land has copper and has a rate of growth of per capita GDP of 1.6%
The Natural Resource Paradox

- Evidence was gathered...

<table>
<thead>
<tr>
<th>Resource Endowment</th>
<th>Total Countries</th>
<th>East Asia &amp; Pacific</th>
<th>South Asia</th>
<th>Europe &amp; Central Asia</th>
<th>Latin America &amp; Caribbean</th>
<th>Middle East &amp; North Africa</th>
<th>Sub-Saharan Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource Poor Countries$^4$</td>
<td>20</td>
<td>7</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Resource Rich Countries$^5$</td>
<td>65</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>20</td>
<td>5</td>
<td>33</td>
</tr>
<tr>
<td>All Countries$^3$</td>
<td>85</td>
<td>11</td>
<td>5</td>
<td>1</td>
<td>23</td>
<td>7</td>
<td>38</td>
</tr>
</tbody>
</table>

The Natural Resource Paradox

• Evidence was gathered....

Table 14: Growth Rates by Region

<table>
<thead>
<tr>
<th>Region</th>
<th>Average Annual Per Capita GDP Growth (1970-1990)</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Asia &amp; Pacific</td>
<td>2.80%</td>
</tr>
<tr>
<td>South Asia</td>
<td>2.20%</td>
</tr>
<tr>
<td>Middle East &amp; North Africa</td>
<td>0.80%</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>0.74%</td>
</tr>
<tr>
<td>Europe &amp; Central Asia</td>
<td>2.90%</td>
</tr>
<tr>
<td>Latin America &amp; Caribbean</td>
<td>2.00%</td>
</tr>
</tbody>
</table>

Table 13: Growth Rates by Natural Resource Endowment

<table>
<thead>
<tr>
<th>Resource Endowment</th>
<th>Average Annual Per Capita GDP Growth (1970-1990)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource Poor⁴</td>
<td>2.63%</td>
</tr>
<tr>
<td>Resource Rich⁵</td>
<td>0.78%</td>
</tr>
</tbody>
</table>

The Natural Resource Paradox

- Evidence was gathered....

Gross National Income Per Capita, US$

Source: World Bank
The Natural Resource Paradox

• Explanations were looked for...

Source: Gylfason (2000)
The Natural Resource Paradox

And a logical conclusion came up:

**Resources are a curse!!!**
The Resource Curse

What is it all about?

Resource Discovered in Year 20

With Discovery

Without Discovery

Source: RWI (2013)
The Resource Curse

So natural Resources brought us the seven plagues, but which ones were the mechanisms:

• Dutch Disease and loss of competitiveness
• Declining commodity prices because innovation and substitution
• Overproduction driving prices down
• Volatility of international prices of commodities – “Boom-Bust” Cycle
• Access to easy credit – debt crisis
• Consumerism fever
• Corruption opportunities fueled by easy wealth
• Unproductive use of resources
• Distorted distribution of production factors
The Resource Curse

So resources brought us the seven plagues, but what were the mechanisms for such a curse:

• Cluster economy
• Scarce added value - only raw commodities production
• Decreasing returns
• Wealth concentration, increased inequality: the “Belindia” Syndrome
• Mono exporter mentality
• Degraded environmental and Social degradation
• Excess of revenue fuels fiscal laziness and irresponsibility
• Promotes authoritarian and clientelist regimes
The Resource Curse

Data supported this perspective:

GRAPH 7 | Long-term commodity prices

- Real* raw industrials prices (in US$ terms)
- Trend**
- Trend +/- two standard deviations

* Adjusted by US GDP Deflator; shown as a natural logarithm
** Time trend from 1800 to 2000

Source: BCA Research
The Resource Curse

It is true!: goods are replaced
The Resource Curse

And new ways to exploit a resource can developed

Thus, nobody can be 100% sure...
The Resource Curse

And new sources of energy are developing

The only thing we know for sure about the future is that we are not there yet... but it is coming
The Resource Curse

Were those projects really necessary?
The Resource Curse

Were those projects really necessary?
The Resource Curse

Were about T&T?
The Resource Curse

And where about authoritarian, populist, corrupt regimes?
The Resource Curse

And this is happening right next door
The Resource Curse

And there are serious governance and transparency issues

<table>
<thead>
<tr>
<th>Country</th>
<th>Government Effectiveness</th>
<th>Regulatory Quality</th>
<th>Voice and Accountability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria</td>
<td>29&lt;sup&gt;th&lt;/sup&gt;</td>
<td>11&lt;sup&gt;th&lt;/sup&gt;</td>
<td>18&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>Egypt</td>
<td>32&lt;sup&gt;nd&lt;/sup&gt;</td>
<td>41&lt;sup&gt;st&lt;/sup&gt;</td>
<td>16&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>Iraq</td>
<td>10&lt;sup&gt;th&lt;/sup&gt;</td>
<td>15&lt;sup&gt;th&lt;/sup&gt;</td>
<td>13&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>Jordan</td>
<td>57&lt;sup&gt;th&lt;/sup&gt;</td>
<td>57&lt;sup&gt;th&lt;/sup&gt;</td>
<td>25&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>Libya</td>
<td>5&lt;sup&gt;th&lt;/sup&gt;</td>
<td>5&lt;sup&gt;th&lt;/sup&gt;</td>
<td>6&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>41&lt;sup&gt;st&lt;/sup&gt;</td>
<td>53&lt;sup&gt;rd&lt;/sup&gt;</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
</tr>
<tr>
<td>Tunisia</td>
<td>57&lt;sup&gt;th&lt;/sup&gt;</td>
<td>46&lt;sup&gt;th&lt;/sup&gt;</td>
<td>36&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>78&lt;sup&gt;th&lt;/sup&gt;</td>
<td>63&lt;sup&gt;rd&lt;/sup&gt;</td>
<td>20&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

The Dutch Disease

• An economic phenomenon where the revenues from natural resource exports damage a nation's economy, affecting its diversification and competitiveness

• The name comes from the economic disturbances experienced by the Netherlands after huge gas fields were discovered

  • Appreciation of the local currency
  • Increase in the price of factors (labor, capital)
  • Tradable sectors lose competitiveness in and out the country

• Why was that?
The Dutch Disease

• Netherlands has traditionally been a manufacturing and trading power

• By the 1950’s the Dutch manufacturing sector was world class. Ever heard about Phillips TV and radio sets?

• In 1959 the biggest gas field in Europe was found in Groningen

• Field production started in 1963 and the Dutch economy began to receive massive inflows of gas revenues
The Dutch Disease

3 effects of the Dutch Disease

• **Factor movement effect**
  Labor and capital flows into the resource extraction sector at the expense of other productive sectors

• **Spending effect**
  Increased demand from the recipients of resources revenues presses the national economy

• **Spillover – loss effect**
  Loss of competitiveness in other productive sectors hampers innovation and economic development in the whole economy
The Dutch Disease

• The increased supply of foreign currency brought the appreciation of the local currency

• Consequences:
Dutch products became more expensive for foreigners and foreign products became cheaper for Dutch people

• Therefore loss of competitiveness for the tradable sector (manufacturing)

• Also the demand from the oil sector increased the cost of productive factors for all the economic sectors
The Dutch Disease

- Oil starts flowing
- Inflow of foreign currency
- People and capital move from other sectors to the oil sector
- Value of domestic currency rises and/or inflation rises
- Export industries become less competitive and decline
The Dutch Disease

There have been a lot of apparent episodes of Dutch Disease:

• Spain (16th century)
• United Kingdom (1970s)
• Nigeria (1990s)
• Australia (2000s)

• Where about T&T?
The Dutch Disease

• There are gains and losses from finding a natural resource.

• The key is to make sure net gains are positive. In this case, real GDP goes up.

• Example: If oil is found and GDP goes down, then oil should not be produced. Oil has negative value to the economy in this case, and therefore, don’t produce any oil if production makes the economy poorer.

• This is the fundamental issue: Don’t look at the gross gains from Extractive Industries. Rather look at the net gains
The Dutch Disease

Of Course there are Policy Responses to Dutch Disease

1. Macroeconomic policy to neutralize the exchange rate appreciation. Sterilization might be useful. Hold foreign exchange earnings overseas in an attempt to keep domestic consumers from increasing the relative price of non-tradables.
   
a. Might work for a period of time, but domestic nationals may undo in part what the government does via sterilization. That is, domestic nationals may bring their own foreign reserves back into the country and offset the net gain in the government’s foreign reserve position.
   
b. Foreign investors might bring foreign exchange into the economy to offset the government’s attempt to reduce imports.
   
c. The fact that the government holds more foreign exchange will tend to increase the exchange rate.

2. Fix the exchange rate (China): Keep the exchange rate undervalued. Encourages exports but discourages domestic consumption.
The Dutch Disease

Of Course there are Policy Responses to Dutch Disease

3. Part of Dutch Disease is a distributional problem.
   a. Government gets the mineral revenue.
   b. Citizens in affected sectors bear the cost.
   c. Need policies to help with the adjustment (not export subsidies but investments in areas that will promote employment and exports).

4. Diversify the economy: Not subsidies for industries but investments in infrastructure and skills.

5. Dutch Disease works in reverse:
   a. As mineral developments are depleted, foreign exchange earnings fall and the exchange rate may depreciate.
   b. Need investments to take over when mines are depleted.
   c. There needs to be increased savings and investment.
The Dutch Disease

Addressing Dutch Disease: Fiscal Sterilization

- Oil starts flowing
- Inflow of foreign currency
- Funds are invested overseas
- Value of currency and inflation remain stable
- Export industries remain competitive

Other Means of Addressing DD:
- Investment, economic diversification and growth
- Monetary sterilization
The Norwegian Paradox

However, reality is complex. It is not as simple

• Norway is a good case of how cause-effect relationships related to the resource curse doesn’t always work

• That is called the “Norwegian Paradox”
The Norwegian Paradox

• Norway was historically the smaller and least developed economy among the Scandinavians countries

• In comparative terms, it was less diversified and sophisticated than its neighbors

• However, in 1969 Norway discovered huge oil fields, with commercial production starting in 1971

• What happened then?
The Norwegian Paradox

- Norway’s economy started to catch up with their neighbors, after oil was found.

- However, Norway was able to keep a continuous growth even after oil revenues permeated the economy.
The Norwegian Paradox

- Continuous high economic performance
- Comparatively reduced investment in Research & Development
- Low level of technological innovation
- What happened?
The Norwegian Paradox

A fundamental fact has to be considered in order to explain the Norwegian Paradox:

Adequate political and economic interaction between

• Institutions

• Special interest groups

• Electorate

In other words: a strong **Social Contract**
The Norwegian Paradox

• There was a set of public policies and institutions playing a role supporting economic growth

• Norway was unsuccessful developing non resource based industries, BUT was successful developing resource based industries

• There was an entrepreneurship sector available, eager to take advantage of the opportunities brought by the oil boom
Norwegian Paradox

The Norwegian state implemented a full set of policies

- Factor Movement Policy
- Spending Effect Policy
- Spillover Effect Policy
- Education research and development policy
- Active counter cyclical policy
- Labor market policies
- Industrial policy
The Norwegian Paradox

As a consequence:

• Factor movement was controlled through income coordination, and a centralized wage formation system

• Spending effect was controlled by fiscal discipline and investing abroad

• Spillover-loss effect was compensated by industrial policy and learning by doing in the oil extraction sector
The Norwegian Paradox

• What the case of Norway tell us?

• There is a curse, but all depends

• It is possible to escape the Dutch Disease, but all depends

• It is possible to escape the curse, but all depends

• There can be sustainable growth, but all depends

• In economics: all depends
The Norwegian Paradox

• Natural resources can be a blessing, if managed correctly

Two key conditions:

• Discourage rent seeking and redistribution conflicts. There must be a **strong social contract, reflecting an integrated society**, with a common vision and shared principles

• **Proper planning and allowance** for the impact from the booming sector on the whole economy
Natural Resources Management

• Recent work has begun to cast doubt on the Resource Curse

• It has been shown that per capita GDP is higher for countries with mineral resources relative to those that do not have mineral resources.

• There are several resource rich countries that have managed to growth consistently
Natural Resources Management

Several countries, other than Norway, have been quite successful managing the wealth coming from natural resources: Canada, Chile, Australia, New Zealand

All those countries had to learn and adapt to their new circumstances

In this process of adjustment (economic, social, political, even environmental) there are gains and losses

With a clear understanding and agreement on how to better use the natural resources, those resources are a true blessing

There is always going to be an impact, but we can manage that impact
The Natural Resource Paradox

• Some resource rich countries are not doing bad....

Gross National Income Per Capita, US$

Source: World Bank
The debate about the Resource Curse may be academic, but policies are **important**

- Good institutions make everything better.
- Transparency can increase institutional quality.
- Saving is important and prudence in how savings are invested is equally important.
- Careful planning and evaluation is essential for domestic investments
Natural Resources Management

• Where about Revenue Management & Investment?

• Challenges of resource revenue and expenditure management:
  
  – Resource dependence
  – Revenue management
  – Economic diversification

• That means implementation of adequate Institutions and mechanisms
## Natural Resources Management

<table>
<thead>
<tr>
<th>Dutch Disease</th>
<th>Resource Curse</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
<td>Overall growth and diverse export base</td>
</tr>
<tr>
<td>YES</td>
<td>Overall growth, but strongly contracted manufacturing</td>
</tr>
</tbody>
</table>

Source: Larsen (2004)
Natural Resources Management

4 Issues to address regarding rent distribution from the extractive sector

• Large scale distribution conflicts

• Small scale illegal rent seeking

• Small scale legal rent seeking

• Political purchase of power through electoral clientelism
Natural Resources Management

How to address rent seeking and distribution conflicts:

• Strong social norms

• Transparent democracy

• Proper monitoring

• Effective judicial system
Natural Resources Management

The Natural Resource Charter

• Purpose: to assist governments and societies of resource rich countries to manage those resources generating economic growth, promoting welfare and environmentally sustainability

• Drafted by an independent group of economists, lawyers and political scientists under an oversight board of distinguished international figures
Natural Resources Management

The Natural Resource Charter

Precept 1: Maximizing Benefits
Precept 2: Accountability
Precept 3: Fiscal Regimes
Precept 4: Competitive Processes
Precept 5: Environment and Society
Precept 6: National Companies

Precept 7: Promoting Growth
Precept 8: Smoothing Spending
Precept 9: Effective Spending
Precept 10: Private Sector
Precept 11: International Actors
Precept 12: Role of Companies
Natural Resources Management

The Extractive Industries Transparency Initiative (EITI)

• Joint initiative of governments, companies and civil society to improve openness and accountable management of revenues from natural resources

• Countries implement the EITI Standard to ensure full disclosure of taxes and other payments made to governments

• EITI Reports allow citizens to know how much their government is receiving from their country’s natural resources
Currently, T&T is a **candidate country** to the EITI Standard
So, who wants to be resource rich, yet?
(2) Revenue Volatility, Macroeconomic Volatility and Pro-cyclicality

ToT shock + Pro-cyclical financial sector + Pro-cyclical fiscal and monetary policy

Output volatility

Lower growth + Poor investment
Dutch Disease

Definition: A situation in which the introduction of a new asset into an economy adversely affects economic activity in other sectors.

Example:
• Oil was discovered in the North Sea.
• Oil production increased in The Netherlands.
• Exports of tulip bulbs went down and unemployment in some sectors went up.
Dutch Disease Formalized (1-2-3 Model)

- One country
- Two sectors (Production and Consumption)
- Three goods (Imports (M), Domestic Production (D) and Exports (X))

- Producers can substitute between D and E imperfectly
- Consumers can substitute between D and M imperfectly
- Differs from model with tradeables and non-tradeables by allowing tradedness to be a matter of degree
Dutch Disease: Summary

- There are gains and losses from finding a natural resource.

- Must make sure net gains are positive. In this case, real GDP goes up. If oil is found and GDP goes down, then oil should not be produced. Oil has negative value to the economy in this case if it is produced. We need to make sure that the lowest value is zero. Therefore, don’t produce any oil if production makes the economy poorer.

- This is really an example of the basic point: a country must not look at the gross gains from mineral production. Rather, a country needs to look at the net gains.
  - If cash flows are measured perfectly, then there is no problem because Dutch Disease effects would be automatically taken into account.
  - Cash flows are not perfectly measured and thus some adjustment for losses to other sectors is necessary.

Dutch Disease: Summary
Framing the Challenge

• Is there a “Resource Curse”?  
  – Natural resources have the potential to be transformative if they are properly harnessed for development ...
  – But the decision chain—from discovery of minerals through their conversion into a productive economy—is long and complex.
Framing the Challenge

• Effectively navigating this long and complex decision chain requires a nuanced understanding of power structures and incentives within the natural resource sector, as well as technical skills.

◊ Government policymakers, civil society representatives, members of Parliaments and the Media: all have important roles to play.
Natural Resource Charter: 12 Precepts

<table>
<thead>
<tr>
<th>Precept 1: Maximizing Benefits</th>
<th>Precept 7: Promoting Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precept 2: Accountability</td>
<td>Precept 8: Smoothing Spending</td>
</tr>
<tr>
<td>Precept 3: Fiscal Regimes</td>
<td>Precept 9: Effective Spending</td>
</tr>
<tr>
<td>Precept 4: Competitive Processes</td>
<td>Precept 10: Private Sector</td>
</tr>
<tr>
<td>Precept 5: Environment and Society</td>
<td>Precept 11: International Actors</td>
</tr>
<tr>
<td>Precept 6: National Companies</td>
<td>Precept 12: Role of Companies</td>
</tr>
</tbody>
</table>

[Logos: spp, Revenue Watch Institute, Natural Resource Charter]