Challenges to Economic Growth in Nigeria

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What do these countries have in common?
In 1970,

- Both hugely dependent on oil
- Both recently gained independence from the UK (1957 and 1960)
- Both with comparable GDP per capita
But over time...
Real GDP per Capita

...a huge divergence

Source: World Penn Tables
<table>
<thead>
<tr>
<th></th>
<th>Nigeria</th>
<th>Malaysia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>132.8m</td>
<td>24.3m</td>
</tr>
<tr>
<td>Population growth</td>
<td>2.12%</td>
<td>1.91%</td>
</tr>
<tr>
<td>GDP per capita</td>
<td>$328</td>
<td>$3,915</td>
</tr>
<tr>
<td>GDP per capita on a purchasing price parity basis</td>
<td>$815</td>
<td>$8,825</td>
</tr>
<tr>
<td>Exports of goods and services as % of GDP</td>
<td>37.70%</td>
<td>113.80%</td>
</tr>
</tbody>
</table>

Source: FdiMagazine.com
The Problem: What factors contributed to the divergence in economic, political, and social stability of these two nations?

The Method: Use system dynamics to gain insights into the problem.

The Client: Experts on the Nigerian situation
Attractiveness to Foreign and Local Investors

Perceived ROI for Investors

Foreign and Local Investment in Domestic Economy

GDP Per Capita

Actual Return for Investors

Stress in Organizational Capacity

Incentive for Government to Nationalize Business

Percent of Economy Privatized

NIGERIA
## Regional Development

<table>
<thead>
<tr>
<th>Sub-Saharan Africa</th>
<th>Region FDI Indicators</th>
<th>South East Asia</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>No. of FDI projects (Jan-Sep 2003)</td>
<td>181</td>
</tr>
<tr>
<td>15.00%</td>
<td>Market-share of projects in the region</td>
<td>20.00%</td>
</tr>
<tr>
<td>34.30%</td>
<td>Value of projects relative to GNP</td>
<td>93.30%</td>
</tr>
<tr>
<td>Energy, Food &amp; Drink, Financial Services</td>
<td>Top 3 destination sectors</td>
<td>Automotive OEM, IT &amp; Software, Chemicals</td>
</tr>
<tr>
<td>UK, Greece, USA</td>
<td>Top 3 source countries</td>
<td>USA, UK, Japan</td>
</tr>
<tr>
<td>Frigoglass, Royal Dutch Shell Group, Union Bank</td>
<td>Top 3 investors</td>
<td>Tesco, Ford, Motorola</td>
</tr>
</tbody>
</table>

Source: FdiMagazine.com
institutions

- 'Entrenchment' of Officials
- Opportunities to Abuse Powers
- Relative Power of Officials to Politicians
- Government Abuse of Power
- Efforts to Form Democratic Government
- Stability of Governmental System
- Discontent with Government
- Amount of Quality Government Spending
- Rule of Law
- Attractiveness to Foreign and Local Investors
- Reliability of Infrastructure
- Foreign and Local Investment in Domestic Economy
- Ease of Conducting Economic Activity
- Personal Security of Citizens
- Happiness of Population
- GDP Per Capita
- Government Spending on Infrastructure

NIGERIA
Control of corruption
Rule of law
Regulatory quality
Government effectiveness
Political stability

Deviation with respect to world average

Source: FdiMagazine.com
Shortage of Appropriate Employment Opportunities

People Emigrating to Seek Employment

Productivity per Person

GDP Per Capita

Percentage of People Expecting Education

Skill Level of Population

Government Spending per Person Educated

Number of People Seeking Education

Effectiveness of Education

School Attendance

Students Perception of the Value of Education

People Underemployed

Expectations for Income and Quality of Employment

NIGERIA
Nigeria

Education Expenditure % of GNI

Source: World Development Indicators, World Bank
Insights

- Investment
  - Investment, GDP growth, and the size of GDP are all strongly interdependent.

- Regional Development
  - A nation’s comparative status in its region of the world will impact its ability to develop.

- Institutions
  - A nation must be perceived as being politically stable before it can hope to increase investment in its economy.

- Education
  - Even the best education system will be ultimately worthless if there are not ample jobs that befit those who are highly educated.

Nigeria
Overcoming (some) Insecurities

- Trust the Standard Method!
- Concentrate on Insights
- Every stage of the process has value
  - For large projects, causal loops may be the biggest the most valuable part
...but not all of them

- Difficult to know when analysis is done
- Going slow is hard!
- “But that’s obvious!”

Hines Morale-o-meter ©
System Dynamics
Insights

• Equilibrium can be obtained systematically
• Smooths are everywhere
  – Learning how to use the trend molecule