The "China Factor": The Rise of China and Sub-Saharan Africa
Politics 167 Brandeis University
The United States and China in World Politics
Summer, 2011

Hans H. Tung
Dept. of Government
Harvard University

June 27, 2011
Outline


2. Perspectives
   - Natural Resources Curse and Sino-SSA Relationship
   - Flying Geese

3. Evidence

4. Conclusion
Dear Hans,

...on Monday June 27, please advise the students that they must turn in their term papers on time, and that anyone who turns the term paper in late will receive a severe grade penalty.

Thanks

Professor Thaxton
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2. Perspectives
   • Natural Resources Curse and Sino-SSA Relationship
   • Flying Geese

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4. Conclusion
Economics: Natural Resource Trade

1. Resource-Driven Trade between China and sub-Saharan Africa


   - 0: Food and live animals
   - 1: Beverages and tobacco
   - 2: Crude materials, inedible, except fuels
   - 3: Mineral fuels, lubricants and related materials
   - 4: Animal and vegetable oils and fats
   - 68: Non ferrous metals
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### List of Industries and Their Codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Industry Description</th>
</tr>
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<tbody>
<tr>
<td>01</td>
<td>Coal Mining</td>
</tr>
<tr>
<td>02</td>
<td>Crude Oil and Natural Gas Extraction</td>
</tr>
<tr>
<td>03</td>
<td>Ferrous Metals Mining</td>
</tr>
<tr>
<td>04</td>
<td>Non-ferrous Metals Mining</td>
</tr>
<tr>
<td>05</td>
<td>Non-Metallic Minerals Mining</td>
</tr>
<tr>
<td>06</td>
<td>Logging and Related Business</td>
</tr>
<tr>
<td>07</td>
<td>Food Processing</td>
</tr>
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<td>08</td>
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</tr>
<tr>
<td>10</td>
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</tr>
<tr>
<td>14</td>
<td>Furniture</td>
</tr>
<tr>
<td>15</td>
<td>Paper and Paper Products</td>
</tr>
<tr>
<td>16</td>
<td>Printing and Publishing</td>
</tr>
<tr>
<td>17</td>
<td>Stationery, Sports and Entertainment goods</td>
</tr>
<tr>
<td>18</td>
<td>Petroleum Refineries and Coking</td>
</tr>
<tr>
<td>19</td>
<td>Basic Industrial Chemicals</td>
</tr>
<tr>
<td>20</td>
<td>Drugs and Medicine</td>
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<td>21</td>
<td>Chemical Synthetics and Fabrics</td>
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<td>22</td>
<td>Plastic Products</td>
</tr>
<tr>
<td>23</td>
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</tr>
<tr>
<td>33</td>
<td>Scientific Instruments and office equipment</td>
</tr>
<tr>
<td>34</td>
<td>Other Manufacturing not else classified</td>
</tr>
<tr>
<td>35</td>
<td>Electricity, heating, and Water</td>
</tr>
<tr>
<td>36</td>
<td>Coal Gas</td>
</tr>
</tbody>
</table>
Economics: Markets for Exports

Graphs by Year

Trade Value (Millions)
## Economics: Markets for Exports

<table>
<thead>
<tr>
<th>1992 (89%)</th>
<th>1993 (82%)</th>
</tr>
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<tbody>
<tr>
<td>30. Transportation Equipment</td>
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Implications

1. The bimodal nature of the distributions exhibited in this figure means that China’s exports to Sub-Saharan Africa concentrate in two types of industrial products.

2. The sectoral composition of major exporting sectors had been fairly stable during the period. While there are some minor changes in the ranking of them, it is fairly obvious that the top 10 exporting sectors concentrate in the light industry such as textile and leather products, and parts of the heavy industry such as machinery and transportation equipment.

3. Both public and private sectors have a stake in exporting goods to Sub-Saharan Africa. In terms of ownership structure, the light industry in China is mainly composed of private enterprises, and, by contrast, the heavy industry producing capital goods such as metal product equipment still comprises of a substantial number of state-owned enterprises.

4. The decision to trade or not is not simply determined by the government, but also by the profit-maximizing individuals.
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Politics

- Non-interventionism: The Sudan Case
- No-String-Attached Aid Regime
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2. No-String-Attached Aid Regime
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......, in places such as Sudan and Iran, where they (China and Russia) are making common cause to block the liberal West’s efforts to impose sanctions, and in Belarus, Uzbekistan, Zimbabwe and Burma, where they have embraced various dictators in defiance of the global liberal consensus. All these actions can be explained away as simply serving narrow material interests. China needs Sudanese and Iranian oil....

The most common complaint centres on foreign policy. In its drive to secure reliable supplies of raw materials, it is said, China is coddling dictators, despoiling poor countries and undermining Western efforts to spread democracy and prosperity. America and Europe, the shrillest voices say, are losing Africa and Latin America.

....for those who join China’s flying geese flock and lock into China’s SEZ networks and who welcome entrepreneurial Chinese, a huge transformation should be in the offing. In fact, given that China’s population is more than ten times that of Japan’s, and given that China’s rise should continue and strengthen and broaden in the foreseeable and ever more globalized future, the transformative impact of China in Africa could yet turn out to be far larger than that of Japan in Asia.
Yet the timing is right for some African countries to catch the new wave of investors coming out of China. If even some of these experiments lead to a genuine transfer of knowledge and opportunity from China to Africa, much as happened with Japan and south-east Asia in the 1970s and with Hong Kong and Mauritius in the 1980s, employment could see significant gains and, in some spots, long-delayed industrial transitions may yet be realised.
Booming Sector and De-Industrialization

Based on Corden and Neary (1982)

Setup

- Small Economy
- Two traded goods: energy, $X_E$, and manufactures, $X_M$
- Non-traded goods: services, $X_S$

Three Possible Sources of the Boom

1. Once-for-all exogenous technical improvement
2. Windfall discovery of new resources, i.e., increase in supply of the specific factor
3. The booming sector produced only for export, with no sales at home, and there has been an exogenous rise in the price of its product on the world market relative to the price of imports.

This third source is exactly the one through which the China factor exerts its influence. The robust demand for energy and raw materials owing to China’s growing economy has exogenously pushed up the prices for the natural resources abundant in SSA countries.

We also have to take into account an important fact that lots of natural resources exported to China were actually exported to China as a way to pay back China’s loans to SSA countries. In other words, SSA’s natural resource trade with China is not purely commercial.
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We also have to take into account an important fact that some of the natural resources exported to China were actually exported to China as a way to pay back China's loans to SSA countries. In other words, SSA's natural resources trade with China has more to it than just a boom.
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  We also have to take into account an important fact that lots of natural resources exported to China were actually exported to China as a way to pay back China’s loans to SSA countries. In other words, SSA’s natural resource trade with China is not purely commercial.
Pre-Boom Equilibrium

- Suppose that labor is the only mobile factor
  - Full Employment: Moving closer to $O_S$ (farther away from $O_T$) implies an increase in the labor supply for the manufacturing (tradable) sector and vice versa.
  - $L_T$ and $L_M$: The Labor Demand Curve for the entire Tradable Sector and Manufacturing Sector only. (Caution: there is no supply curve in the figure)
  - $L_S$: The Labor Demand Curve for the Non-Tradable (Service) Sector.
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Why $L_M$ Is Steeper?

- Labor Adjustment in Both the Energy and the Manufacturing Sectors
  - Suppose $w_0 \to w_1$
  - Shift in Labor Demand in the Manufacturing Sector: $M \to M'$
  - Unabsorbed Adjustment in the Energy Sector
- Labor Adjustment only in Manufacturing Sector:
  - Imagined $L_T$
- Complete Absorption: $MM' = TT'$

Total Labor Supply

Labor Demand Schedules for Tradable and Non-tradable Sector

- Wage Rate
- Labor Adjustment in Both the Energy and the Manufacturing Sectors
- Total Labor Supply

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Production Possibility Curve and Pre-Boom Equilibrium

- **TS**: Pre-Boom Production Possibility Curve
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- Suppose now we have a boom or technological progress in the energy sector, and we would like to know its effect on industrial outputs.

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- **Two Possible Effects**
  1. Resource Movement Effect
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Resource Movement Effect: Stage One

1. **Real Exchange Rate is Held Constant:** The curve $L_S$ and the price ratio are unchanged.
2. Technological progress in the energy sector acts in the same way as a price increase, which leads to an increase in demand for labor at a given wage rate.
3. **New Aggregate Labor Demand Schedule in the Traded Sector:** $L_T \rightarrow L'_T$. Note that the slope of the new aggregate labor demand curve, $L'_T$ has changed and this is because the boom only happens in one of the traded sector, energy sector, and not in the other sector, manufacturing sector.
4. **The Second Equilibrium $B$ and Direct De-Industrialization:** $B$ also brings about an increase in the wage rate. $w_0 \rightarrow w_1$ creates the shrinking effect in employment in both the service sector, $T \rightarrow T_B$, and the manufacturing sector, $OM \rightarrow OM'$, which is the so-called direct de-industrialization.
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**Perspectives**

Evidence

Conclusion

Natural Resources Curse and Sino-SSA Relationship

Flying Geese

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The "China Factor": The Rise of China and Sub-Saharan Africa Politics 16
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3. **New Equilibrium and "Ultra-Biased" Growth**: The output in the service sector has decreased from $S_a$ to $S_b$ as the equilibrium moves from $a$ to $b$. This is called the ultra biased growth since the boom in energy sector takes place at the price of the other two sectors by reducing the outputs in the latter.
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Now, the real exchange rate is allowed to vary. To abstract from the spending effect for the time being, an assumption is made that the income-elasticity of demand for services is zero.

Income-Consumption Curve: The assumption of zero income-elasticity of demand for services implies that the income consumption curve is the vertical line, $E_a$, which passes through $a$ and intersects $T'S$ at $j$.

Excess Demand for Services: Give no income effect, the demand for services reached at the initial equilibrium $a$ is not affected by the changes in income. As a result, even if we obtain the new production possibilities frontier $T'S$ and the output has shrank from $S_a$ to $S_b$, the demand for services remains at the level of $S_a$ and the corresponding production bundle for $T'S$ is $j(S_a, T_j)$. This makes it clear another side of the resource movement effect: excess demand for services, $S_a - S_b$. 

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The "China Factor": The Rise of China and Sub-Saharan Africa Politics 16
1. This **excess demand for services** is a destabilizing force and asks for some adjustment to reach a new equilibrium. Since services are **non-tradable**, so this excess demand can’t be satisfied by importing similar services abroad.

2. **Real Appreciation and The Third Equilibrium**: Consequently, since the quantities can’t be changed, the only adjustment that can take place is a **real appreciation** of the price for services.

3. The new equilibrium must be located somewhere between \( b \) and \( j \). The new adjustment of the **real appreciation** dampens the fall in the service sector’s output and mitigates the **resource movement effect**. The rise in price helps keep some resources in the service sector.
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Spending Effect: Assumptions

1. To abstract from the resource movement effect, it is assumed that the energy sector does not use any labor. As a result, the boom has no effect, and $L_T$ and $L_M$ overlap in this case.

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The Second Equilibrium: In the case of the spending effect, the driving force for the equilibrium to shift does not come from the labor market dynamics.

1. The boom also shifts the production possibilities frontier upwards.

2. When we shift the initial equilibrium $a$ vertically upwards to the new equilibrium $b$, the output in the service sector remains at the initial level $S_a$, but the output in the traded sector is raised from $T_a$ to $T_b$. At this point, the initial real exchange rate still remains unchanged.

3. Of course, there could be cases where the boom pushes up the output in the traded sector beyond $T'$ in the figure and makes it impossible for the real exchange rate to remain unchanged. This is the case of $b'$ and the tangent line to another production possibilities frontier $T''S$ with a greater boom. It is clear from the graph that the real exchange rate can’t stay the same and there will be a real appreciation.
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1 **Income Effect and Excess Demand**: The zero income-elasticity assumption is relaxed, and therefore the income consumption curve is now $O_n$.

2 The demand for services is going to increase as income rises. Consequently, along the income-consumption curve, $O_n$, the new demand for services corresponding to $T'S$ will arrive at $c$ and create the excess demand for services, $S_c - S_a$.

3 **Excess demand and real appreciation**: As the output increases from $S_a$ to $S_c$, there must be a real appreciation in the price of the service sector. The third equilibrium will be located somewhere between $b$ and $c$.

4 **Summary**: The analysis at this step reaches the same conclusion that there is a real appreciation in the price of the service sector. Moreover, what is worth noting is that the whole thing is triggered by the income effect, which is suppressed in the previous analysis of the resource movement effect.
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The "China Factor": The Rise of China and Sub-Saharan Africa Politics 16
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Flying Geese Theorem

- A Pattern of Sequential Growth: Import → Domestic Production → Export
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  - South Korea and Taiwan were followers, and so were Indonesia, Malaysia, and Thailand.
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- A Pattern of Sequential Growth: Import → Domestic Production → Export
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- Positive
  - Special Economic Zone
  - Technological Transfers
  - Foreign Direct Investment

- Negative
  - Natural Resource Curse
  - China’s Regional Economy and the crowding-out of African Exports
  - Transferring the Chinese model of Business to Africa (Pros/Cons)

For example, NuTech, a Chinese state-owned technology company. In Namibia, three people were arrested and assets frozen owing to a bribery scheme in May 2008 regarding a 55 million contract between NuTech and the Namibian government to supply the country’s ports and airports with scanning systems.
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Outline

1 China’s Rise in Africa: Some Basic Facts

2 Perspectives
   • Natural Resources Curse and Sino-SSA Relationship
   • Flying Geese

3 Evidence

4 Conclusion
Blessing or Curse?

- Economics: More Positive
  - According to Meyersson et al. (2008), exporting natural resources to China has positive effects on short term economic growth, capital formation and the development of value added industries.
  - According to Geda and Meskel (08), there is strong evidence that China has been replacing African exports from the third market, while, at the same time, there is also evidence for the shifting of comparative advantage from China to Africa as the flying-geese theory predicts.

- Politics: Less Certain
  - For human rights, the preliminary evidence (Meyersson et al., 2008) shows that exporting NR to China has an adverse effect.
  - Caveat: It is similar to the effect of exporting NR to the U.S., a rich and powerful democracy. Conversely, exporting to India, a relatively smaller democracy, improves human rights. Hence, while we can conclude that the characteristics of a trading partner matters, we cannot attribute the adverse effect of exporting to China on human rights only to the fact that it is not a democracy.
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Economic historian Niall Ferguson warns that this is how empires begin. First you import commodities, then you think it would make sense to own the production facilities. Then, because the resources you want to exploit are in developing countries, you invest in local infrastructure, with roads, railways and ports to ship the commodities, along with facilities for processing. Then, when trouble brews, you need to protect both your investments and your personnel, which means providing an armed security presence on the ground. Pretty soon, before you know it, you are calling all the shots in a distant land. In short, you have acquired an empire in a fit of absence of mind.


