Exports, Capabilities and Clusters

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About This MOOC

• Attempting to bring the UNU-WIDER & Brookings research program on Jobs, Poverty and Structural Change in Africa to a broader audience.

• A multi-year, multi country comparative research program with a focus on firms.

• Use of mixed methods including case studies, quantitative and qualitative analysis
We began with *Learning to Compete* (2016) (with AfDB)

Which tried to answer a (seemingly) simple question:
- Why is there so little industry in Africa?

This led to two other questions:
- What makes firms more productive?
- What makes countries more attractive to more productive firms?
The Structure of *Learning to Compete*

- **Eleven Countries**
  - Two Asian: Vietnam, Cambodia.

- **National researchers**

- **Three Track Approach**
  - Detailed case studies of industrialization and the evolution of public policies
  - Econometric analysis of the stock of firm level surveys
  - Qualitative surveys of FDI firms and linked domestic firms.
A SIMPLE FRAMEWORK:
Drivers of Productivity and Location in Low Income Countries

• The “basics” (AKA “the investment climate”)
  – Infrastructure, institutions and skills
• Exports
  – Scale and “learning by exporting”
• Firm capabilities
  – Management and working practices
• Agglomerations
  – Industrial clusters
Conventional Wisdom: Africa Lacks the “Basics”

- African country studies highlight large gaps in infrastructure
  - Power is the biggest constraint
  - Transport and logistics come a close second
- Skills related to production and management are lacking in many countries
  - Deficiencies in post-primary education
  - Poorly performing vocational and technical education
- Institutions are improving but still constrain investment
- **Unconventional wisdom: the basics are necessary but not sufficient**
  - The four drivers are interdependent and mutually supportive
Exports: Scale and Learning

- Exports allow firms to transcend national markets and realize economies of scale.
- Firms that export have faster rates of productivity change than those that produce for the domestic market.
Learning by Exporting

• For the exporting firm:
  – “Asymmetric competition”
    • African domestic markets lack competition.
  – Access to new technology
    • Better knowledge of possibilities
    • Access to proprietary technologies
  – Improved “capabilities”
    • Improvements in productivity and quality

• For other firms:
  – Demonstration effects
  – Supply chain relationships
Evidence from *Learning to Compete*
Cambodia, Ethiopia, Mozambique, Senegal, Tunisia, Vietnam

• Confirming expectations
  – More productive firms select into exporting
  – Large (and foreign) firms are more likely to export
  – Exporting further raises productivity
  – Learning effects appear to be stronger in
    • Domestically owned firms
    • More sophisticated products
    • Higher income (or more distant) markets
    • The initial years of exporting
Evidence from *Learning to Compete*
Cambodia, Ethiopia, Mozambique, Senegal, Tunisia, Vietnam

• And some surprises
  – Many African exporters are “born global” (both FDI and local)
  – Few firms “learn to export” (few partial exporters and fewer switchers)
  – Export activity is highly persistent
  – Small firms may learn more by exporting
  – The productivity premium tends to increase with low national (or sectoral) export participation rates
Exports and Public Policy

• Exporting has high social returns but high private costs of entry
  o The (neo-)classic rationale for public action
• For Africa entering global markets will require an “East Asian style” export push
  o Broad ownership and effective institutions (leadership from the top)
  o Trade related infrastructure and trade logistics
  o Appropriate macro-management
  o Support for regional institutions and infrastructure
• Few (if any) African governments have attempted an effective export push
  o Natural resources and Aid complicate exchange rate management
Firm Capabilities

• Capabilities are the tacit knowledge and working practices embodied in the firm (Sutton)

• Capabilities are reflected in
  – New product development
  – Production management
  – Management of the supply chain
  – Marketing

• They are linked more to people than equipment
  – Technology can be purchased
  – Management is important but it is not the only thing that determines capabilities, the whole workforce of the firm is relevant
What are Capabilities?

- Capabilities operate in two dimensions
  - Productivity
  - Quality
- Productivity is a “cost shifter”
- Quality is a “demand shifter”

Fig. 1.1. Demand Shifters and Cost Shifters
Competing in Capabilities

• Globally firms are competing in capabilities
• Firms that succeed in entering global markets must meet minimum price and quality standards
• Low wages and therefore low prices are not sufficient to guarantee success
• Quality strongly depends on working practices
Capabilities and Exports

• Capabilities are built through supply chain relationships
  – Demanding buyers (quality and timeliness)
  – Repeated relationships (with input and equipment suppliers)

• Global export markets offer both
  – Exporting can improve capabilities
Capabilities and FDI

• MNCs embody advanced country capabilities
• Capabilities can spill over to other firms
  – Little econometric evidence of productivity increases arising from FDI in the same industry
  – More persuasive evidence of productivity increases in linked industries (Javoric; Harrison)
  – Very little understanding of the mechanisms by which these spill overs take place
Evidence from *Learning to Compete*
(Cambodia, Ghana, Kenya, Ethiopia, Mozambique, Uganda, Vietnam)

- African countries lack capable mid-sized (50-100 workers) firms
  - Management of a growing labor force is a major constraint
- Firms learn capabilities from exporting
  - The positive relationship between exporting and productivity is mainly due to process and quality innovations
  - Knowledge of potential markets’ is the most serious constraint for international market entry.
- Firm to firm knowledge transfers are an important source of capabilities, especially from FDI
  - Vertical linkages along supply chains
- Firm to firm relationships are much more dense in Asia than in Africa
### Domestic Value Chains Vietnam and Kenya

#### Backward link
- Indicates the flow from supplier to customer.

#### Forward link
- Indicates the flow from customer to supplier.

#### Competitor
- Indicates potential competitors in the value chain.

<table>
<thead>
<tr>
<th>No</th>
<th>Province</th>
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<th>Product</th>
<th>Customer</th>
<th>Supplier</th>
<th>Forward</th>
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Note: Out of the 14 identified firms, 2 firms refused to participate in the survey.
Capabilities and Public Policy

• Creating knowledge networks
  – Knowledge as a public good
  – Collective action and Public-Private Partnerships

• Management training
  – Content likely to differ with firm size
  – Some indication of positive returns
  – Questions of incentives to adopt and persistence

• Making capability building a “practice area” for aid
  – JICA/World Bank training experiments
Agglomerations and Clusters

• Firms tend to concentrate in limited geographic areas, often in cities

• Driven by:
  – Common needs for inputs and access to markets
  – “Thick” labor markets (lower costs of search and availability of specialized skills).
  – Proximity to input suppliers and customers (backward- and forward-linked industries can realize economies of scale and resolve coordination problems).
  – Sharing indivisible goods and facilities (such as infrastructure)
Agglomeration Effects

• Externalities suggest that firms located in an agglomeration should have higher productivity.

• Econometric studies have traditionally attempted to associate measures of firm level productivity (or growth or employment) with measures of spatial concentration.
  – All of these studies suffer from a variety of econometric ailments (Selection bias, Identification, Simultaneity).

• While they may not satisfy the purists, they tell a pretty consistent story.
Evidence from *Learning to Compete*

Cambodia, Ethiopia, Tunisia and Vietnam

- Broad evidence of productivity spillovers
  - Large (formal) firms appear to benefit more than small (informal) firms
  - Foreign-owned firms benefit most from productivity spillovers
- Productivity gains for similar firms (localization effects) are strongest in lower income countries
- Where domestic transport costs are high, local competition increases
  - And prices tend to fall, reducing incentives to cluster
  - The trade-off between productivity and price effects determines the spatial distribution of industry
- Some evidence that the tendency toward geographical concentration is stronger in more sophisticated industries
Evidence from *Learning to Compete*  
Cambodia, Ethiopia, Tunisia and Vietnam

- Clusters contribute to capability building
  - Sharing technological and/or marketing knowledge
  - Knowledge of improved management techniques
- Thick labor markets encourage spin-offs and transfer of tacit knowledge
  - Spin-offs by former employees are important
Clusters and Public Policy

- Agglomerations confer significant productivity gains, even in low income countries
- Starting a new industrial agglomeration is a form of collective action problem
  - The “first mover” disadvantage
  - A rationale for public intervention
- East Asian economies attempted to deal with the collective action problem through the use of spatial industrial policy
Special Economic Zones

• The principal instrument of spatial industrial policy in East Asia has been the Special Economic Zone (SEZ)
• East Asian SEZs offer a combination of
  – World-class infrastructure
  – Expedited customs and administrative procedures
  – (Sometimes) a distinct regulatory environment
  – (Often) fiscal incentives
• Designed to overcome barriers to investment in the wider economy.
### Special Economic Zones in Africa

- African SEZs have largely failed to attract significant investment due to poor institutional and physical infrastructure.
- Governments have failed to connect SEZs to the national development strategy.
- The “architecture” of SEZs often discourages capability building.

#### Indicators of Physical and Institutional Infrastructure in SEZs

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<tr>
<th>Indicator</th>
<th>Average Africa Sample</th>
<th>Average Non Africa Sample</th>
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<tr>
<td>Power Outages (in hours downtime)</td>
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<tr>
<td><strong>Within SEZ</strong></td>
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<tr>
<td><strong>Outside SEZ</strong></td>
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<td>46</td>
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<tr>
<td>Import Customs Clearance Times (in days)</td>
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<tr>
<td><strong>Within SEZ</strong></td>
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<td>3.4</td>
</tr>
<tr>
<td><strong>Outside SEZ</strong></td>
<td>10.3</td>
<td>11.0</td>
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</table>
Energizing Africa’s SEZs

• Match the institutional and infrastructure standards set by such “best practice” examples as China, Vietnam and Central America and the Caribbean

• Design SEZs with “open architecture”
  – Establish an ongoing exchange between the domestic economy and activities based in the zone.
  – Eliminate legal restrictions on forward and backward linkages and domestic participation in SEZs.

• Management must be sensitive to needs of the private investor

• Link the SEZs with the FDI agency to promote capability building

• Outward orientation is important (competition in local markets offsets productivity gains)
Summing Up

- Exports offer opportunities to achieve scale and learn capabilities.
- In the global economy firms and countries are “competing in capabilities.”
- Public policies can play a role in attracting and building more capable firms through an export push and FDI.
- Firms cluster because of the productivity boost they receive from agglomerations, including through enhanced capabilities.
- For that reason public policies for export promotion, capability building and spatial industrial policies are inextricably linked.