Enterprise Development in Mozambique - Evidence from two decades.

Project: Inclusive Growth in Mozambique – Scaling-up research and capacity

Conference: Transformation Towards Better Jobs

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Maputo 21 November 2019
Setting the scene (1)

• Mozambique has **failed to industrialize** and there has been very little manufacturing job creation and growth enhancing structural change.
  • Labor has not moved from lower to higher productivity employment (**lack of structural transformation**).
  • Manufacturing share of GDP has gone from **13% in 2002 to 9% in 2017**. (CEMPRE – 13.3% in 2002 to 8.7% in 2017)
  • Manufacting exports (as a percentage of total export) remains at 2002 level (**only around 6%**).

• Structural change (the shift of resources from low to high productivity uses) is needed in Africa (Page, 2012)
  • Can longer-run growth be sustained in absence of structural change.

• Can (and how should) Mozambique industrialize?
  • What can accelerate the shift of labor from low productivity jobs in agriculture and the informal sector to higher productivity jobs in agro-industry, manufacturing or tradable services?
Export composition by product

Export composition in 2017

Export composition in 2002

Source: Atlas of Economic Complexity
Export by product 2002 - 2017

Source: Atlas of Economic Complexity
Export composition by product

Export destination in 2017

Export destination in 2002

Source: Atlas of Economic Complexity
Failure to industrialize during globalization

• Currently Mozambique is ranked 138 (out of 190) on the Doing Business ranking.
  • Main problem found within:
    • Starting a business.
    • Investor property rights.
    • Getting credit.
    • Contract enforcement.

• Currently Mozambique is ranked 123 (out of 133) on the Economic Complexity ranking.
  • Since 2002 Mozambique's economy has become less complex the last 15 years.
  • Lack of diversification of exports.
  • Troubling pattern of export growth. Largest contribution to export growth coming from moderate complexity products.

• A key aspect of the project “Inclusive Growth in Mozambique – Scaling-up research and capacity” has been trying to understand the lack manufacturing performance and industrial development and in Mozambique over the last 15 years.
The IGM Project

- Collection and analysis of enterprise manufacturing data.
  - ICA (2002/03)
  - DNEAP (2006)
  - WB/ICA (2006/07)
  - IIM (2012)
  - IIM (2017) **collected during this project**
  - WB (2017/18)

- Not panel data, however some firms can be traced from 2002 – 2017 (gazelles???). Forthcoming work.

- Several topics covered (today we focus on):
  - Productivity/Survival and doing business constraints.
  - Learning by exporting
  - Access to credit
Perceived Doing Business Constraints 2002-2017

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th>2006</th>
<th>2012</th>
<th>2017</th>
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</thead>
<tbody>
<tr>
<td>Access to finance and cost of credit</td>
<td>83.6</td>
<td>72.4</td>
<td>55.9</td>
<td>61.0</td>
</tr>
<tr>
<td>Access to land</td>
<td>26.7</td>
<td>18.3</td>
<td>51.5</td>
<td>47.1</td>
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<tr>
<td><strong>General corruption</strong></td>
<td><strong>64.4</strong></td>
<td><strong>45.3</strong></td>
<td><strong>47.3</strong></td>
<td><strong>61.2</strong></td>
</tr>
<tr>
<td><strong>Crime, theft and disorder</strong></td>
<td><strong>54.4</strong></td>
<td><strong>34.4</strong></td>
<td><strong>45.8</strong></td>
<td><strong>55.7</strong></td>
</tr>
<tr>
<td><strong>Macroeconomic instability (inflation, exch. rate)</strong></td>
<td><strong>63.0</strong></td>
<td><strong>63.0</strong></td>
<td><strong>43.7</strong></td>
<td><strong>78.6</strong></td>
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<tr>
<td><strong>Customs and trade regulation administration</strong></td>
<td><strong>49.4</strong></td>
<td><strong>37.8</strong></td>
<td><strong>43.5</strong></td>
<td><strong>32.8</strong></td>
</tr>
<tr>
<td>Anti-competitive practices (e.g. monopoly)</td>
<td>60.4</td>
<td>32.4</td>
<td>41.4</td>
<td>44.5</td>
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<tr>
<td>Tax rates</td>
<td>54.9</td>
<td>49.7</td>
<td>32.9</td>
<td>48.9</td>
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<tr>
<td>Tax administration</td>
<td>47.3</td>
<td>35.3</td>
<td>31.6</td>
<td>41.4</td>
</tr>
<tr>
<td>Transportation</td>
<td>27.3</td>
<td>25.7</td>
<td>31.2</td>
<td>42.5</td>
</tr>
<tr>
<td><strong>Skills and education of workers</strong></td>
<td><strong>33.9</strong></td>
<td><strong>35.7</strong></td>
<td><strong>28.6</strong></td>
<td><strong>34.1</strong></td>
</tr>
<tr>
<td><strong>Labor regulations</strong></td>
<td><strong>37.9</strong></td>
<td><strong>48.4</strong></td>
<td><strong>28.5</strong></td>
<td><strong>35.7</strong></td>
</tr>
<tr>
<td>Electricity</td>
<td>64.7</td>
<td>46.2</td>
<td>21.8</td>
<td>49.6</td>
</tr>
</tbody>
</table>

Note: Factors problematic for the operation and growth of businesses (per cent having responded “major obstacle” or “serious obstacle”).
Productivity and Survival (1)

- Productivity and survival are important indicators of manufacturing sector performance and competitiveness.

- Only few productivity studies for Mozambique exist.
  - TFP growth can be explained by changes in capacity utilization. Concern about sustaining strong productivity growth as Mozambique approaches its technology frontier.
  - Mozambican manufacturing has one of the lowest production efficiency levels in Sub-Saharan Africa - many inefficient firms are able to survive in the manufacturing sector. (limited creative destruction).
  - Entry barriers (limited entry) and survival rates very high compared to the level of development.

  - All firm observed at least twice during the period.
  - Consistent estimates of technical efficiency applying a fixed effects stochastic frontier model.
  - Consistent analysis of the association between firm efficiency and constraints to doing business.
Productivity and Survival (2)

- “Mid-size” firms are found to have a lower survival rate than those at the lower and upper ends of the size scale. Missing middle???
- Demand uncertainty an issue for “mid-size” firm survival. (contract enforcement problems)
- Technical efficiency levels are not lower than average, when controlling for time-invariant fixed-effects. (entrepreneurial ability) are important.
- Entrepreneurial ability a serious concern, and natural market based selection does not seem to work in the case of Mozambican manufacturing.
- Results support findings by Warren (2010)

“Given the skill-level and technology at hand, firms are producing relatively efficiently and improving productivity, but the limited level of (entrepreneurial) knowledge and simple production systems are insufficient to support a process of sustained technology and industrial development”
Learning-By-Exporting (1)

• Very few manufacturing firms export, and export participation is highly persistent. **Born Globals!**

• **Methodological concern:** Observing a positive association between firm level productivity and export participation does not necessarily mean that LBE is taking place.
  
  • The positive correlation may be driven by self-selection of more productive firms into export markets.
  
  • Entry often comes at an extra cost (marketing, networking, licensing, administrative barriers etc.), which the more productive/capable firms are most likely to cope with.
  
  • Moreover, since export markets are more competitive than domestic markets, it may also be harder for less productive firms to enter in the first place.
  
  • It should also be noted that LBE and self-selection are not mutually exclusive, and higher efficiency producers entering foreign markets may also improve productivity even faster than domestic firms post entry.
Context – Who are exporters

Carpenter in Matuto, Mozambique

Furniture producer in Maputo, Mozambique
Context – Who are exporters

Carpenter in Matuto, Mozambique - Micro Informal

Furniture producer in Maputo, Mozambique – Micro formal exporter (to RSA), but employees are informal
Learning-By-Exporting (2)

• Introduced by self-selection by combining a generalized **Blinder-Oaxaca approach** with results from traditional matching techniques.

• The BO method essentially identifies two components of the unconditional labor productivity gap, i.e., the difference between labor productivity of firms exporting and of firms not exporting, respectively.
  • The first component of the decomposition measures the importance of differences in observable characteristics between exporters and non-exporters (**characteristics effect**).
  • The second component measures the importance of differences in parameters for the two groups. This captures the variation in the returns to the characteristics between exporters and non-exporters. (**coefficient effect** or the unexplained component).
Learning-By-Exporting (3)

• Evidence supporting the learning-by-exporting hypothesis

• Export premium of approximately 20 percent, controlling for differences in observable characteristics between exporters and non-exporters.

• Qualitative information on exporters suggest that many firms are Born Globals, but that the owners and managers are not Born Globals.
  • Can we analyze the LBE at the firm level or should it be done at the entrepreneurial level?
Access to Credit (1)

• Claim: Limited credit access is could be a serious constraint to future growth and development of the private sector in Mozambique.
  • What does the data say? Analysis done using both World Bank and IIM surveys.

• Only 10 (in 2002), 13 (in 2006), 14 (in 2012) and 13 (in 2017) percent of firms have obtained credit from the banking sector (relatively constant over time).

• In 2002, over 40% of the sample were credit constrained using standard definitions (see Byiers et al, 2010). This fell for a comparable sample to 22% in 2006, 19% in 2012 and 19% in 2017.
  • Credit remains an important constraint, but the subjective evaluation likely overstates the real extent of credit constraints faced by the manufacturing sector.
Access to Credit (2)

- Especially small firms stay out of the credit market due to high interest rates.

- Keeping external audited accounting books seem as an especially efficient tool to reduce credit constraints.

- Informal credit market not able to compensate for formal financial market failures

- Trade credits are starting to play an increasingly important role as substitute for the lack of formal sector banking credit.
Conclusion

• Can (and how should) Mozambique industrialize?

• What we know (or think we know ☺):
  • Misallocation/inefficiencies not as bad as earlier studies claim.
  • Skills are at very low levels. Entrepreneurial and worker capacity upgrading needed? But how?
  • Export led strategy – Maybe even FDI-led?
    • BUT - EC conclusion: Mozambique needs to consider a “Strategic Bet Approach” - Few nearby opportunities in the product space call for coordinated long jumps into strategic areas with future diversification potential.

• What we want to know:
  • Entrepreneurial versus worker capacity effects
  • Role of clusters/agglomeration initiatives
  • Characteristics of “gazelles”