Multi-year Expert Meeting
Enhancing the Enabling Economic Environment at all Levels in Support of Inclusive and Sustainable Development, and the Promotion of Economic Integration and Cooperation

26-27 October 2017

Regional Value Chains in Southern Africa: Exploring Opportunities for Linkages and Upgrading

Paper submitted by

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Regional Value Chains in Southern Africa: Exploring Opportunities for Linkages and Upgrading

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Southern Africa

- High GDP growth rates across the continent
- Demand-pull of urbanization, extractive industries, agriculture
- 2014 - 57% of Africa’s exports consisted of unprocessed commodities (UNCTAD, 2016)
- Premature de-industrialization & lack of structural transformation – diversification
- Aggregate data miss important country & sectoral dynamics
  - Market structure and nature inter-firm linkages
  - Technology and learning – what activities and capabilities

Important research agenda:
- CCRED (South Africa); IAPRI, ZIPAR in Zambia; ZEPARU in Zimbabwe; IESE in Mozambique; REPOA in Tanzania – funded by SA DTI, UNU WIDER
- UNCTAD
Shares of South Africa’s diversified manufacturing exports (excluding basic metals and chemicals) by destination.
A credit to SADC

• Success in reducing tariff barriers as part of the FTA and concomitant growth in trade in goods

• Expansion in services trade

• Expansion in FDI, notably in services

• Despite these successes, there are clear concerns
• Limited appetite for continued across-the-board steps towards greater integration
  • SADC customs union appears to be delayed indefinitely

• Frequent incoherence between national policies and the regional integration agenda
  • Growing importance of NTBs

• South Africa experiencing more success in exporting to the region than vice versa, particularly with respect to non-minerals

• Regional trade does not necessarily coincide with RVCs – integrated production networks?

• **Two way growth dynamics not yet in place**
Household final consumption expenditure PPP (constant 2011, US$)
• Strong growth in the number and spread of supermarkets over the past two decades.

• Shoprite and Pick n Pay alone account for 366 stores across 16 African countries, all but three of which are SADC countries.

• Expansion of clientele to lower income consumers and smaller towns serving rural zones.

• Dominated by South African companies that benefit from first-mover advantages in most countries

• Conduits for South African products and deep sea imports to consumers in the region.
Challenges and opportunities

Local suppliers are challenged by:

• Competition from imports
• Growing dominance of supermarkets in retail
• Difficulties in meeting standards to supply these supermarkets
• Potential market power of supermarkets catering to multinational brands
• Supermarkets underinvesting in supplier development

Local suppliers have the opportunity to:

• Serve national markets easily and efficiently
• Break into regional markets using the supermarket network
Source: Ziba and Phiri (2016)
Policy measures

Supplier development initiatives
  • targets for regional sourcing
  • onus for supplier development on supermarkets or their association

A regional code of conduct for supermarkets

Monitor supermarkets as key routes to market

(das Nair and Chisoro, 2016)
Mining-related capital equipment

Historical experience of developed and developing countries show that resources can support industrial development and knowledge intensification.

RVC for mining capital equipment is important for multiple reasons:
- Trade and FDI flows in the industry are significant across the region
- Existing Regional System of Innovation around mining with *hub* South Africa
- Strong capabilities in South Africa but uneven developments across the region
- Engineering manufacturing and services capabilities are critical for industrialisation
- Capabilities conducive to lateral migration and inputs into other sectors
- Countries are looking at local content policies to leverage on their extractive industries
Continental and regional strategies

Africa Mining Vision adopted by Heads of State in February 2009

Goal: “Transparent, equitable and optimal exploitation of mineral resources to underpin broad-based sustainable growth and socioeconomic development”

2011 Action Plan to Implement the AMV → Programme cluster 8 Linkages and diversification

Strategy for SADC focused on linkages development (Jourdan 2016)

SADC major market for mining and mineral processing inputs sector → imports of ~$4bn/y (double the EU mining inputs market, SADC >70% of Africa)

Backward mineral linkages → multipliers, lateral migration (into other sectors)
**South Africa’s largest export markets**  (>100 M US$)

<table>
<thead>
<tr>
<th>Country</th>
<th>Cumulative exports 2012-2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zambia</td>
<td>820 608 204</td>
</tr>
<tr>
<td>Botswana</td>
<td>665 085 632</td>
</tr>
<tr>
<td>DRC</td>
<td>585 426 875</td>
</tr>
<tr>
<td>Namibia</td>
<td>475 700 575</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>461 379 723</td>
</tr>
<tr>
<td>Mozambique</td>
<td>408 568 987</td>
</tr>
<tr>
<td>USA</td>
<td>313 497 858</td>
</tr>
<tr>
<td>Australia</td>
<td>245 227 818</td>
</tr>
<tr>
<td>Angola</td>
<td>143 827 472</td>
</tr>
<tr>
<td>Ghana</td>
<td>123 946 274</td>
</tr>
<tr>
<td>Tanzania</td>
<td>115 069 933</td>
</tr>
<tr>
<td>Lesotho</td>
<td>112 920 597</td>
</tr>
<tr>
<td>UAE</td>
<td>100 057 821</td>
</tr>
</tbody>
</table>
South Africa’s market share in the region: Changes in 2006-2015
Players in regional markets: Example of Mineral processing capital equipment

<table>
<thead>
<tr>
<th>MOZAMBIQUE</th>
<th>TANZANIA</th>
<th>ZAMBIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>100</td>
<td>2</td>
</tr>
<tr>
<td>South Africa</td>
<td>57.6</td>
<td>3</td>
</tr>
<tr>
<td>Portugal</td>
<td>9.9</td>
<td>19</td>
</tr>
<tr>
<td>China</td>
<td>8.8</td>
<td>44</td>
</tr>
<tr>
<td>Austria</td>
<td>7.4</td>
<td>23</td>
</tr>
<tr>
<td>Turkey</td>
<td>3.3</td>
<td>63</td>
</tr>
<tr>
<td>India</td>
<td>2</td>
<td>-43</td>
</tr>
<tr>
<td>Italy</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Spain</td>
<td>1.7</td>
<td>75</td>
</tr>
<tr>
<td>UK</td>
<td>1.7</td>
<td>107</td>
</tr>
<tr>
<td>France</td>
<td>1.1</td>
<td>61</td>
</tr>
</tbody>
</table>
Changing OEMs strategies

Industry concentration

Sandvik, Atlas Copco, and Caterpillar dominate the market for Load Haul Dumps (LHDs), trucks, drills and bolters

Manufacturing outsourcing, R&D internationalisation

Servicification of manufacturing

Next generation mining
RVC structure

- Mining companies
  - Agents Distributors
  - Subsidiaries
  - Local engineering firms – aftermarket services only
- EPCM firms
  - South African OEMs
    - Global OEMs based in South Africa
  - Tier 2 suppliers in South Africa
- Local Tier 2 suppliers

Subsidiaries and Agents Distributors are connected to Mining companies.
Local engineering firms and Local Tier 2 suppliers are connected to Mining companies but operate separately.
South Africa as regional hub

- South African OEMs vs. Global OEMs

- South African OEMs’ delayed internationalisation compared to Global OEMs
  \[
  \rightarrow \text{access to aftermarket services revenue streams}
  \]

- SA-based OEMs increasingly projected towards the region, especially mineral processing OEMs (50 - 95% of their sales)

- South African OEMs entry into the region:
  - Trial and error
  - Progression from direct exports, distributorships and JVs, subsidiaries
  - Losing competitiveness in aftermarket services
Machinery and metal fabrication sector

- Declining output performance and shallowing of technological capabilities
- Concentration in few, large firms, and a multitude of small scale, informal businesses

Challenges

- lack of management and technical skills
- poor access to credit, technology, and business development services
- weak national quality assurance systems
- uncompetitive upstream industries
- costly and unreliable infrastructure
- Mozambique and Tanzania - burdensome regulatory and administrative environments
Policy frameworks

Tanzania and Zambia
• revision of mining policy frameworks in the late 2000s
• encourage the mining companies to increase local sourcing
• Not mandatory, no specific targets no monitoring mechanisms
• very limited impact on local machinery and metal fabrication value addition
• Zambian Mining Local Content Initiative (ZMLCI)

Mozambique
• No local content
• MOZAL linkage programme → Instituto para a Promoção das Pequenas e Médias Empresas (IPEME)

South Africa
• 2010 Mining Charter → Focused on Broad-based Black Economic Empowerment
Internal policy inconsistency

- Duty-free imports from mining companies vs. domestic suppliers

Focus on ownership rather than value addition

Experience with supplier development programmes vary

Industry bodies well-organised

Regional System of Innovation centred around South Africa

- Flows of students, researchers and teachers
- One way flow
Opportunities

Large demand
• world market for mining capital equipment US$100 billion in 2016, US$107.3 billion by end 2017
• 2006-2015 cumulative imports → Mozambique US$ 1.8 billion, Tanzania US$ 2.3 billion, Zambia US$ 4.4 billion

Aftermarket services
• See table

Nearsourcing

Govt interest and SADC Industrialisation Strategy and Roadmap
## Size of aftermarket services

<table>
<thead>
<tr>
<th>Processing equipment</th>
<th>Initial USDM</th>
<th>Total Stay In Business USDM</th>
<th>Ratio Stay In Business:Initial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grinding mill, rod &amp; ball</td>
<td>5.5</td>
<td>197.6</td>
<td>35 :1</td>
</tr>
<tr>
<td>Cone crushers</td>
<td>4.0</td>
<td>65.0</td>
<td>16 :1</td>
</tr>
<tr>
<td>Mobile crushing plants</td>
<td>1.2</td>
<td>17.7</td>
<td>15 :1</td>
</tr>
<tr>
<td>Gyratory crushers</td>
<td>13.0</td>
<td>170.0</td>
<td>13 :1</td>
</tr>
<tr>
<td>Underground loaders (LHDs)</td>
<td>1.9</td>
<td>27.0</td>
<td>14 :1</td>
</tr>
<tr>
<td>Shovels, hydraulic</td>
<td>15.9</td>
<td>179.3</td>
<td>11 :1</td>
</tr>
<tr>
<td>Continuous miners, u/ground</td>
<td>3.2</td>
<td>35.9</td>
<td>11 :1</td>
</tr>
<tr>
<td>Roof bolters</td>
<td>1.4</td>
<td>16.5</td>
<td>11 :1</td>
</tr>
</tbody>
</table>

Atlas Copco – 40% of revenues from aftermarket sales and leasing (Sweden National Board of Trade, 2012).

Source: Virgo, Armstrong and Alftan, 2013
Challenges

Vulnerable to commodity price fluctuations, macro-economic instability

High entry barriers

Uneven capabilities

Gas sector?

Policy inconsistency between countries and within countries

Deepening linkages across and within countries
<table>
<thead>
<tr>
<th>Linkages</th>
<th>Local sub-contracting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Back up</td>
<td>100%</td>
</tr>
<tr>
<td>Training</td>
<td>100%</td>
</tr>
<tr>
<td>Credit</td>
<td>83%</td>
</tr>
<tr>
<td>Joint product development</td>
<td>0%</td>
</tr>
<tr>
<td>Joint promotion</td>
<td>83%</td>
</tr>
<tr>
<td>Subsidiaries</td>
<td>50%</td>
</tr>
<tr>
<td>Others</td>
<td>33%</td>
</tr>
<tr>
<td></td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>17%</td>
</tr>
</tbody>
</table>
## Contribution to knowledge intensification

<table>
<thead>
<tr>
<th></th>
<th>Training for Zambian firms</th>
<th>Innovation in Zambia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In-house</td>
<td>In South Africa</td>
</tr>
<tr>
<td><strong>Subsidiaries</strong></td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Others</strong></td>
<td>17%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Linkages between local manufacturers and mega-projects

Implications of Mozal on broader industrial development are limited (Langa and Mandlate, 2015):

- Weak linkages:
  - Scale required is too large for local firms
  - Weak supplier capabilities
  - Business environment (finance)
  - Time and risk taking involved in building technological capabilities
  - Barriers for new entrants

- Companies involved in engineering sector are positioned in low value added segments (supply of simple products, welding, maintenance)

- Questioning the sustainability of linkages:
  - Firms undertook large investment to meet buyer’s requirements on quality, management and safety
  - Initial expansion in business but exposed to time-bound contracts with Mozal
  - Difficult to move back into traditional markets and limited opportunities diversification with mega-projects

- Firm level diversification does not entail investment in deeper technological capabilities but into services with low entry barriers, low risks and/or speculative/rent activities
**Potential policy measures**

Skills development in TVET and engineering

- Leveraging SA firms
- Aftermarket services centres, possible in partnership with regional firms

Mining R&D → Collaborative projects leveraging SA

Knowledge sharing amongst policy-makers

Manufacturing linkages

- Medium-term, more difficult
- Leveraging SA development finance

Possibly regional approach to local content