Exporting, wages and wage inequality in South Africa

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Introduction

• South African statistics paint a bleak picture
  • 0% growth projected for 2016
  • 26.7% unemployment (58.4% youth unemployment)
  • 0.69 Gini coefficient

• Minister of Trade and Industry advocates exports (as part of the National Development Plan) to be the key driver of growth
  • “...increasing exports, particularly in manufacturing, may be crucial for low-skilled job creation needed to substantially reduce high overall unemployment”

• Indeed, manufacturing exporters do create more jobs and pay higher wages
  • But, we know little about
    • the type of jobs that are created and
    • the within firm distribution of wages in exporters compared to non-exporters.
Exporting, wages and wage inequality

• Our paper focuses on relationship between exporting, labour demand and the within-firm distribution of wages

• Our main findings are
  • Manufacturing exporters exhibit an employment premium
  • When creating employment, they
    • Demand older, more experienced workers
    • Demand higher skilled workers
  • An export premium exists across the wage distribution
    • Wage distribution increases in magnitude
    • Effects of destination and exporter status
    • Higher inequality – two potential explanations
Remainder of presentation is as follows:

• Broad literature review
• South African literature review
• Empirical analysis
  • Data
  • Results
• Conclusion
Literature review

• Exporting and labour demand
  • Exporters are, on average, larger than non-exporting firms in terms of number of employees (Brambilla et al., 2015).
  • Exporters contribute to employment creation (Rankin, 2005)
  • Exporters demand certain types of jobs (Bas, 2012)
    • Blue collar versus white collar jobs.
  • Exporters pay higher wages than non-exporters (Bernard and Jensen, 1997; Verhoogen, 2008)

• Wage inequality
  • Exporters versus non-exporters (Schank et al., 2007)
  • Within exporters (Klein et al., 2013).
Literature review

• Within-firm wage distribution
  • Frías, Kaplan and Verhoogen (2012) – Mexico
  • Bernini, Guillou and Treibich (2015) – France

• Exporter heterogeneity
  • Productivity levels (Bas, 2012)
  • Geographical location (Fu and Wu, 2013)
  • Number of products exported, number of destinations exported to (Bernard et al., 2009)
  • Product quality (Verhoogen, 2008)
  • Distance to market (Alcalá and Hernández, 2010)
  • Type of market (Brambilla and Porto, 2016).
South African literature review

• Increase in firm-level studies on international trade
  • Until recently, these studies were limited to the use of sample survey data

• New studies are emerging using administrative data on the population of firms
  • E.g. Edwards et al. (2016) and Matthee et al. (2016)

• Exporter heterogeneity - wages and number of employees (Matthee et al., 2016).
  • Multi-destination & multi-product exporters vs. single-destination & single-product exporters.
  • Destination of exports also matter
    • African destinations versus non-African destinations.

• Rankin and Schöer (2013)
  • Export destination and wages
  • Relationship between exporting, destinations and skills
Empirical analysis: data

- **Customs data**
  - Export transactions of South African firms 2010-2014
  - Transaction: trader id, tariff code (HS6-digit level), country of destination (market), country of origin (SA), customs value of the transaction and the statistical value
  - Exporters trading > R10 000 per year (covers 99% of exports)

- **Employee data (IRP5)**
  - Completed IRP5 certificates by employers on behalf of their employee
  - Weighted number of employees per firm
  - Weighted wages per person
  - Weighted wages per firm
  - Manufacturing sector (ISIC 4 classification: codes 1008 – 1031)

- **Company income tax data (CIT)**
  - Plant and equipment (to measure capital intensity)
  - Employee Expenses including Directors (to measure labour cost)
  - Gross Income (as a measure of sales).
  - IT14 form & ITR14 form (2010-2014)

**Merge = Conjunction table**
Descriptive statistics

The number of the manufacturing exports per destination:
- SACU: 41%
- Africa (excluding SACU): 24%
- International: 35%

The value of the manufacturing exports per destination:
- SACU: 89%
- Africa (excluding SACU): 9%
- International: 2%
## Descriptive statistics

Number of employees, wages and wages per person (average for 2010-2014)

<table>
<thead>
<tr>
<th></th>
<th>Number of employees</th>
<th>Wages per person</th>
<th>Firm wages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-export</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Mean</em></td>
<td>19</td>
<td>201 976</td>
<td>2 116 382</td>
</tr>
<tr>
<td><em>Median</em></td>
<td>7</td>
<td>96 468</td>
<td>667 673</td>
</tr>
<tr>
<td><strong>Exporters</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Mean</em></td>
<td>82</td>
<td>262 130</td>
<td>16 260 000</td>
</tr>
<tr>
<td><em>Median</em></td>
<td>20</td>
<td>144 725</td>
<td>2 771 373</td>
</tr>
<tr>
<td><strong>- International</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Mean</em></td>
<td>137</td>
<td>324 834</td>
<td>31 340 000</td>
</tr>
<tr>
<td><em>median</em></td>
<td>28</td>
<td>164 132</td>
<td>4 294 574</td>
</tr>
<tr>
<td><strong>Africa_only</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Mean</em></td>
<td>47</td>
<td>233 918</td>
<td>6 660 803</td>
</tr>
<tr>
<td><em>median</em></td>
<td>18</td>
<td>149 071</td>
<td>2 588 920</td>
</tr>
</tbody>
</table>
Empirical analysis: outline

Labour and demand

Destination (International vs Africa only)
Export status (dynamics: Enter, Exit, Continue)
Destination & Export status (Enter International, Enter Africa, Exit...)

Type of jobs created

Destination (International vs Africa only)
Export status (dynamics: Enter, Exit, Continue)
Destination & Export status (Enter International, Enter Africa, Exit...)

Wage inequality

Destination (International vs Africa only)
Export status (dynamics: Enter, Exit, Continue)
Destination & Export status (Enter International, Enter Africa, Exit...)
Results: Labour demand and wages

Note: Premium relative to non-exporters
Results: Labour demand and wages

Note: Premium relative to non-exporters
Results: Type of jobs created by exporters

Employment growth: Destination 2010-2013

Employment growth: Export status 2010-2013

Note: Premium relative to non-exporters
Results: Type of jobs created by exporters

Employment growth: Destination and export status 2010-2013

Note: Premium relative to non-exporters
Results: Wage distribution and inequality

Wage distribution

Non-exporter
Sacu only
Africaxs_only
International
Results: Wage distribution and inequality

Trade-off: Pay more, but higher inequality
Results: Wage distribution and inequality
Results: Wage distribution and inequality

Where does the inequality come from? **Type of product** (high quality versus low quality products) exported / **Type of destination** (high or low income per capita) exported to.

\[ \ln(X)_i = \alpha + \beta_1 \text{Exporter}_i + \beta_2 \text{No. dest}_i + \beta_3 \text{No. prod}_i + \beta_4 \text{Industry}_i + \beta_5 \text{year}_i + \beta_6 \text{control}_i + u_i \]

Where:
- \( X_i \) – within firm wage distribution (5\textsuperscript{th} percentile, 25\textsuperscript{th} percentile, 75\textsuperscript{th} percentile, 95\textsuperscript{th} percentile)
- Exporter\(_i\) – dummy variable of export status (SACU, Africa, International)
- No. dest\(_i\) – control dummy (number of destinations exported to by firm)
- No. prod\(_i\) – control dummy (number of products exported by firm)
- Industry\(_i\) – control dummy (4 digit ISIC classification) to account for heterogeneity
- year\(_i\) – control dummy for the years 2010 to 2014
- control\(_i\) – control for HS6 product price/ GDP per capita/ adding product fixed effects
- \( \beta_i \) – export premia
- \( \mu_{it} \) – Error term
Results: Wage distribution and inequality

-0.6
-0.5
-0.4
-0.3
-0.2
-0.1
0

5th% 25th% 50th% 75th% 95th%

-0.1
-0.2
-0.3
-0.4
-0.5
-0.6

Africa only
Africa only + price
Africa only + GDP
Africa only + price & GDP & product fe
SACU only
SACU only + price
SACU only + GDP
SACU only + price & GDP & product fe
Conclusion

• South African manufacturing exporters employ more workers and pay higher wages than non-exporters.
• But, type of jobs created are for more experienced, higher skilled workers.
• Wage inequality
  • An export premium exists across the wage distribution,
    • Wage distribution increases in magnitude.
  • International versus African only exporters; entrants versus continuous exporters
    • Shape of the premium distribution.
  • Source of inequality?
Thank you