

# Mark-ups and Competitiveness of the South African Economy

## Progress Report

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## Objective of the research

How the interaction between market structure and firm characteristics drives the sectoral composition and the entry and exit dynamics of firms

- Level and determinants of mark-ups over marginal cost and its sectoral distribution.
- Interaction between market structure and the entry-exit dynamic of firms
- Market structure and sectoral distribution of job creation and job destruction

## About the Data

- Very rich dataset that requires a lot of understanding
  - why many firms with zero profits?
  - are the tax definitions of variables compatible with their economic definition?
- We are just getting to link all the different datasets across time and across datasets
- Not a substitute for a well designed firm survey

# Mark up and Competitiveness in the South African Economy

- A recurrent debate
  - Fedderke, Kularatne, Mariotti (2007) - Panel of Industrial Sectors: Mark-Ups 79%–77% vs 45% in the US
  - Aghion et al (2008) confirms the result using various datasets and various methodologies
  - Klein (2011) very high average mark-ups (1.5)
  - Gilbert et al (2015) Review the evidence using listed companies and find South African Mark-ups comparable to US
  - Zalk (2014) South African aggregate manufacturing mark-ups have since 1993 been consistently lower than developing and transition economy averages and have generally been lower than advanced economy averages.
- Opportunities with firm level data:
  - Analyse the level of competitiveness at different level of market definition
  - Go beyond the average mark-up and look at the distribution
  - Correlate the mark-up with firm characteristics and competitive pressure

## Mark up and Competitiveness in the South African Economy

- First issue: how do we extract mark-ups from tax informations?

The calculation of mark-ups from tax data uses a transformation of the basic profit identity (Tamminen and Chang 2013)

$$\pi_{ij} = S_{ij} - TC_{ij} = p_{ij}x_{ij} - (c_{ij}x_{ij} + F_{ij}) = p_{ij}x_{ij} - (V_{ij} + F_{ij}) \quad (1)$$

$$p_{ij} = (1 + \mu_{ij}) c_{ij} \quad (2)$$

$$\mu_{ij} = \frac{p_{ij} - c_{ij}}{c_{ij}} = \frac{p_{ij} - c_{ij}}{c_{ij}} \frac{x_{ij}}{x_{ij}} = \frac{S_{ij} - V_{ij}}{V_{ij}} = \frac{\pi_{ij} + F_{ij}}{V_{ij}} \quad (3)$$

- Relatively easy to identify for manufacturing.
- Less clear identification for service sectors - difficult to identify the variable cost (especially finance)
- Include intermediate inputs
- Is this comparable with production function based measures of mark-ups

## First Results - ITR14, 2013

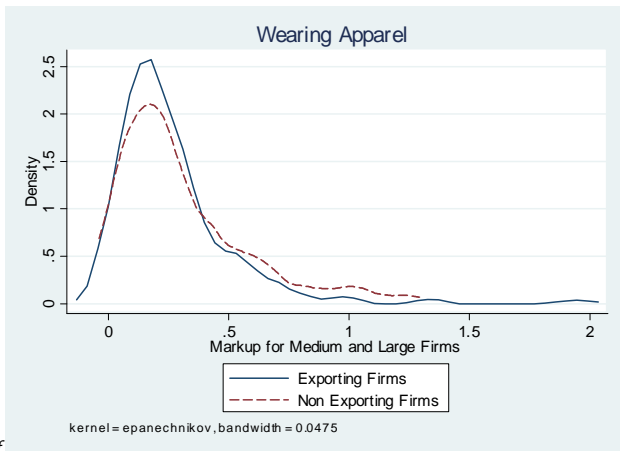
Sector	Number of Firms	Mark Up	
		Average	CV
Food (301-304)	922	0.45	1.91
Beverages (305)	408	0.71	1.75
Tobacco (306)	1174	0.54	1.54
Textiles (311-312)	663	0.56	1.59
Wearing apparel (313-315)	1558	0.58	1.40
Leather & leather products (316)	123	0.59	1.68
Footwear (317)	150	0.54	1.55
Wood & wood products (321-322)	1001	0.60	1.62
Furniture (391)	451	0.59	1.56
Paper & paper products (323)	322	0.45	1.78
Printing and Publishing	1378	0.81	1.36
Industrial Chemicals	514	0.66	1.52
Rubber products (337)	142	0.50	2.14
Plastic products (338)	629	0.59	1.93
Glass & glass products (341)	739	0.63	1.59
Non-metallic minerals (342)	563	0.61	1.64
Basic iron & steel (351)	517	0.40	1.7
Basic non-ferrous metals (352)	363	0.58	1.93
Metal products excluding machinery (353-355)	1341	0.58	1.72
Machinery & equipment (356-359)	2541	0.67	1.67
Motor Vehicles	2833	0.49	2.00
Other Transport Vehicles	505	1.13	1.59
Professional & scientific equipment (374-376)	397	0.86	1.40
Other manufacturing (392-393)	2220	0.66	1.52
<b>Total</b>	<b>21454</b>	<b>0.62</b>	<b>1.67</b>

A lot of firm lost (zero profits, dormant, peculiar cost reporting)



# Mark-Up Heterogeneity

apparel



2.pdf

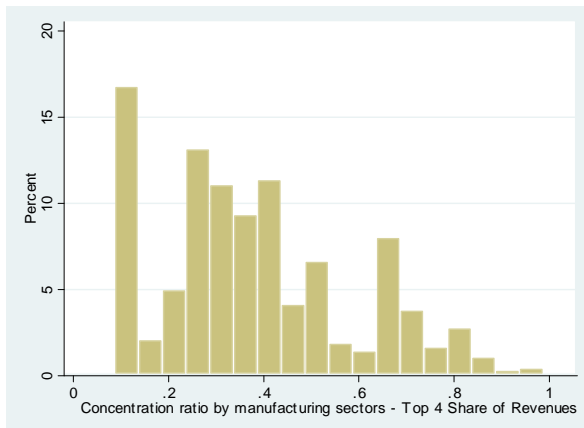
## Mark-ups vs Export Status

Sector (Medium and Large Firms)	Mark Up	
	Exporters	Non Exporters
Food	<b>0.27</b>	0.26
Beverages	<b>0.72</b>	0.52
Tobacco	0.36	0.36
Textiles	0.27	<b>0.32</b>
Wearing apparel	0.24	<b>0.31</b>
Leather & leather products	0.26	0.26
Footwear	0.30	<b>0.39</b>
Wood & wood products	0.41	<b>0.61</b>
Furniture	<b>0.47</b>	0.30
Paper & paper products	<b>0.34</b>	0.23
Printing and Publishing	<b>0.57</b>	0.43
Industrial Chemicals	<b>0.42</b>	0.35
Rubber products	0.37	<b>0.37</b>
Plastic products	0.36	<b>0.51</b>
Glass & glass products	<b>0.53</b>	0.35
Non-metallic minerals	<b>0.38</b>	0.35
Basic iron & steel	0.26	<b>0.28</b>
Basic non-ferrous metals	0.32	0.33
Metal products excluding machinery	0.37	<b>0.49</b>
Machinery & equipment	<b>0.43</b>	0.39
Motor Vehicles	0.22	<b>0.24</b>
Other Transport Vehicles	0.74	<b>1.06</b>
Professional & scientific equipment	0.56	<b>0.88</b>
Other manufacturing	<b>0.44</b>	0.41
<b>Total</b>	<b>0.40</b>	<b>0.42</b>



# Competitiveness

Average Concentration in Manufacturing Sectors: 0.38%



## Other Preliminary Observations

- Mark-ups for small firms higher (on average) than for large firms
  - Reporting?
  - More External Competition?
  - Lower Mark-ups to Grow Larger?

Share of Assets	2.077*** (5.28)
Market Share	-1.454*** (-4.20)
Cons.	0.364*** (48.82)
<i>N</i>	10268

t statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

## Other Preliminary Observations

- Mark-ups in service sectors generally higher

Sectors	N	Mark-up	CV
Agencies and other services	8111	1.04	1.32
Catering and Accomodation	5164	1.40	1.18
Electricity, gas and water	769	0.74	1.47
Medical, dental and other health and vetinary services	1645	1.27	1.19
Mining and quarrying	626	1.20	1.42
Financing, Insurance, Real Estate and business services	20675	1.75	1.96
Retail trade	12590	0.46	1.74

## Final Observations

- Just starting to understand the potential of the data
- Some of the results in line with international comparable literature
  - small firms have higher mark-ups than large firms
  - service sectors have higher mark-ups than manufacturing
  - The dispersion of mark-ups is large
- Next steps:
  - linking datasets across time and analyse the dynamics of markups and entry-exit of firms
  - Link the mark-ups with more specific firm characteristics - labour intensity, export characteristics....