

# Exporting, Importing and Manufacturing Firm Performance in South Africa

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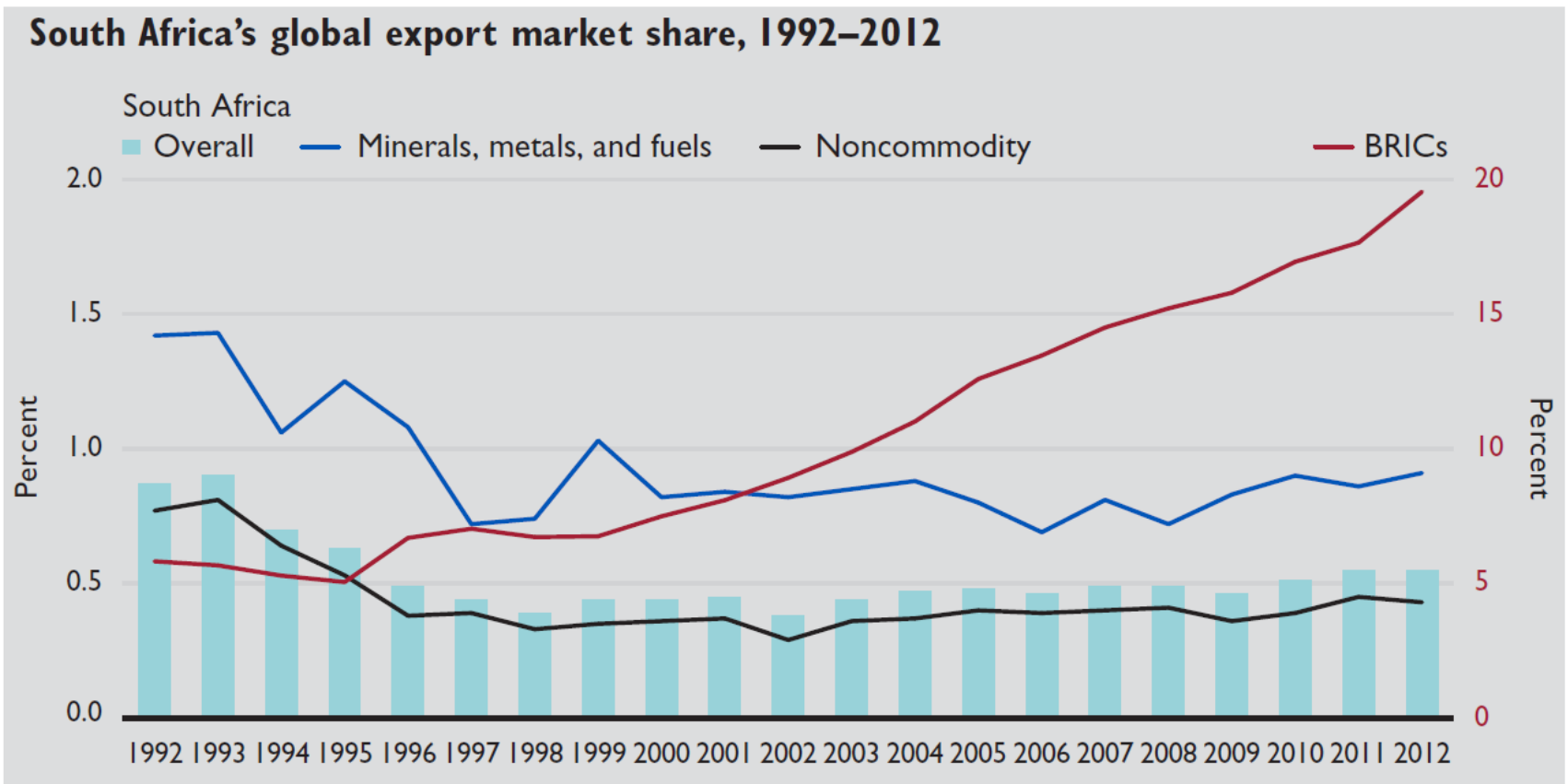
# Presentation Aim

- Showcase UNU-Wider supported research
- Firm perspective of international trade in South Africa drawing on administrative data
  1. Heterogeneous traders: Descriptive picture of manufacturing firms that trade
  2. Complementary effect of importing on firm productivity and exports
  3. New research (not enough time for today):
    - Exchange rate disconnect
    - Trade and allocative efficiency
- Lessons/implications

# Context: SA Export Predicament

Figure Export performance is failing to keep pace

## 2.1 South Africa's global export market share, 1992–2012



Source: UN Comtrade (database) via World Integrated Trade Solution.

Source: World Bank (2014) South Africa Economic Update  
Focus on Export Competitiveness



# **The Firm Data Saviours: SARS/National Treasury/UNU-Wider**

- SA Revenue Services Customs transaction data for Exports and Imports (2009 – 2014 by month)
- Company Income Tax data (2010-2014, annual)
- Individual Employment Tax Certificate data (by job)

# 1. Heterogeneous Firms

- Widespread simultaneous exporting and importing
- Number & share manufacturing firms trading stagnant

Table: Share manufacturing firms by trade status, 2009-2013

	2009	2013
Exporter only	6.2	7.2
Exporter and importer	16.3	15.9
Importer only	9.2	7.7
Non-trader	68.4	69.2
Number firms	20,726	22,997

Sample includes all entities with custom identities

# 1. Heterogeneous Firms, cont.

- Substantial churning amongst small firms
- Low level of dynamism – only 3% of non-traders enter into trading following year (vs. 19% for Denmark)
- Two-way traders far more persistent in trading

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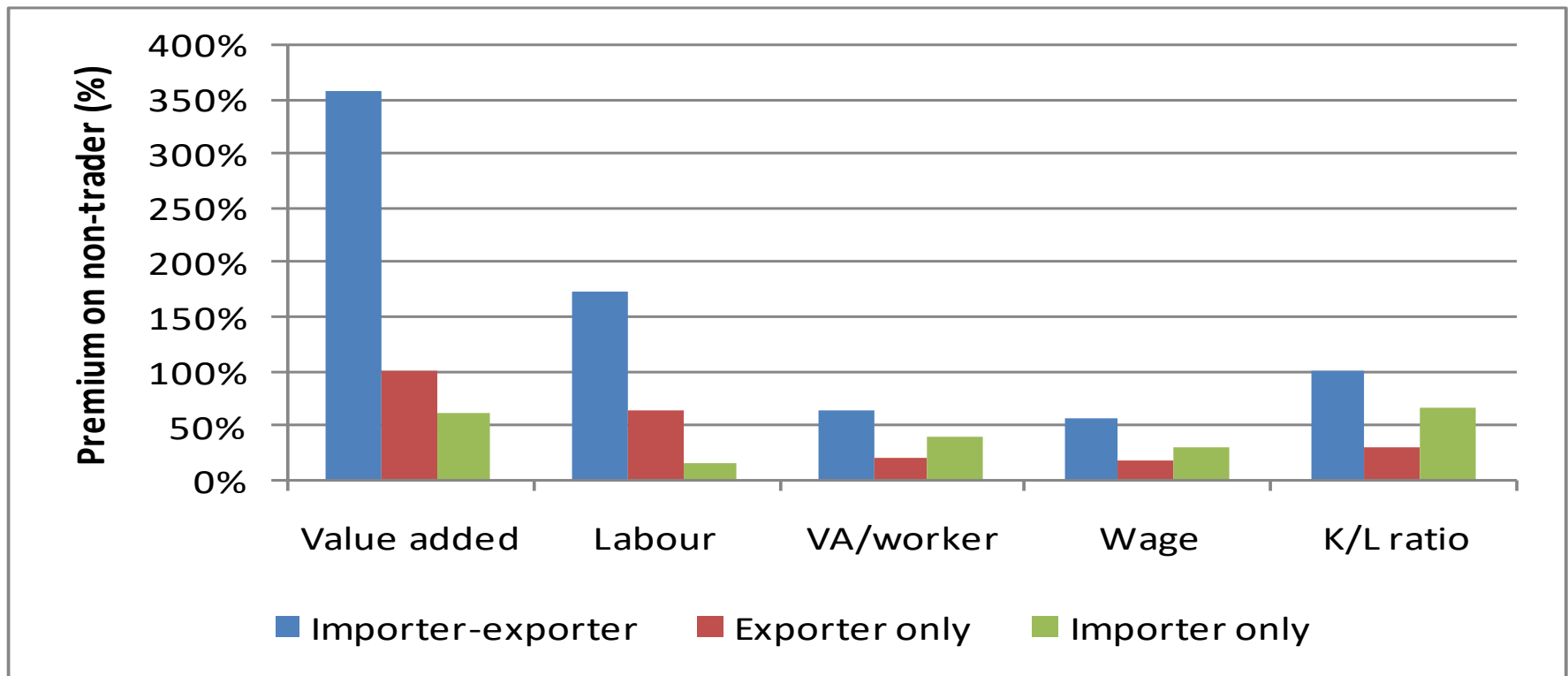
		Status (t+1)				Total
		Non-trader	Exporter only	Importer only	Importer and exporter	
Status (t)	Non-trader	97%	1%	2%	0%	100%
	Exporter only	21%	64%	2%	13%	100%
	Importer only	16%	2%	68%	14%	100%
	Importer and exporter	2%	7%	9%	82%	100%

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# 1. Heterogeneous Firms, cont.

- Trading firms, particularly two-way traders, employ more labour, pay higher wages and are more productive

Trading premia over non-trading firms in manufacturing (2009-13) (percentage)



# 1. Heterogeneous Firms, cont.

- Other insights (see Matthee et al. 2016,2018):
  1. Exports and import make up low share of sales
  2. Productivity premium lower for trade with Africa
  3. High degrees of within-firm wage inequality – higher amongst exporters
  
- Implications:
  1. Exporting firms not creating jobs for the unskilled.
  2. Access into regional market not serving as platform for entry into global market,
  3. ... nor diversification into non-commodity goods ?
  4. Growth in export could contribute to rising wage inequality

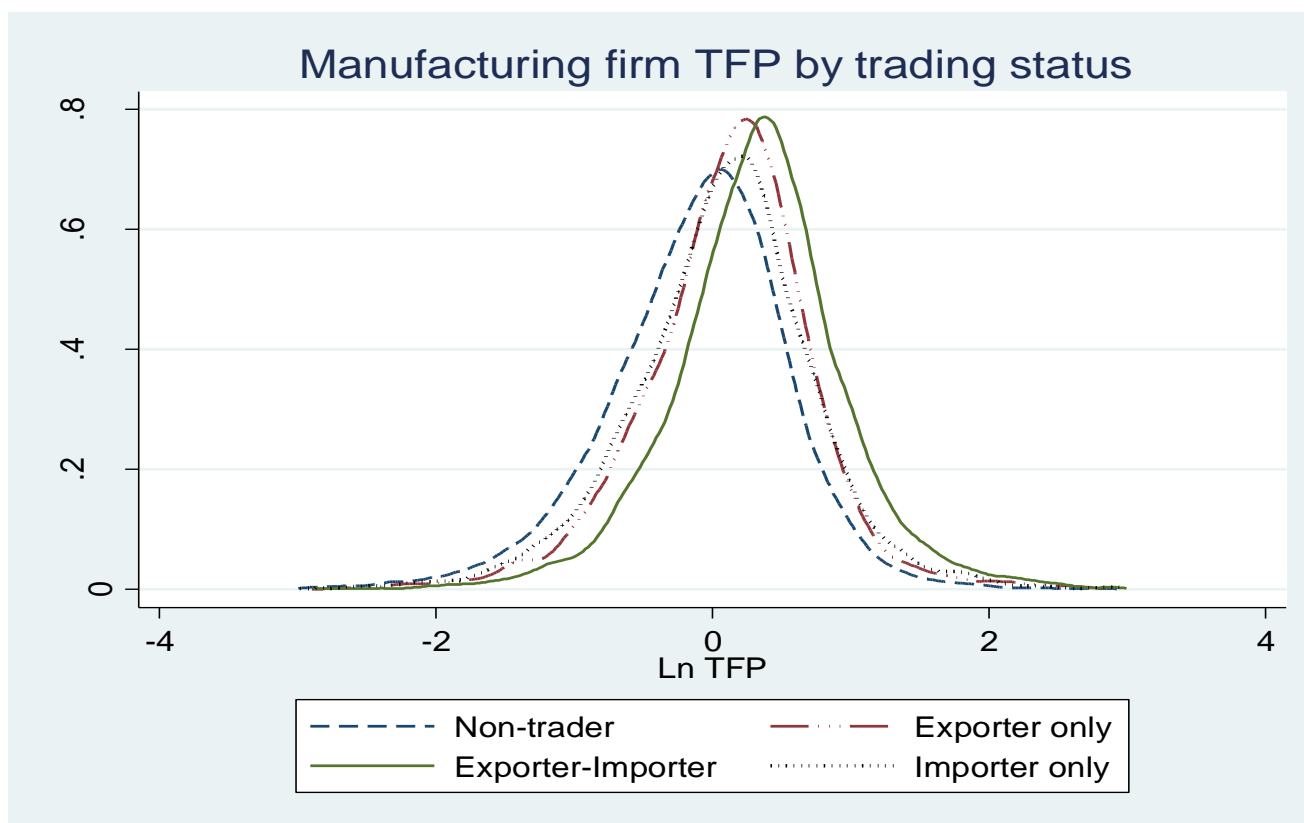


## 2. Imports and Productivity in SA Manufacturing

- Three channels:
  - *Complementarity of inputs channel*
    - (Ethier, 1982; Kasahara and Lapham, 2013; Kasahara & Rodrigue, 2008; Halpern et al., 2015)
  - *Technology transfer channel*
    - (Bas and Strauss-Kahn, 2014)
  - *Higher quality intermediate input channel*
    - (Martin and Mejean, 2014; Kugler and Verhoogen, 2009)

## 2. Unconditional TFP premia

- Strong unconditional TFP premium for firms that import intermediates (similar to firms that export)



Sample includes only manufacturing firms for which TFP estimates are possible. Firm level TFP estimates are demeaned by industry/year combinations

## 2. Conditional Estimates

- Use Cobb-Douglas TFP estimates from pooled sample of manufacturing firms (Wooldridge estimator) 2009-2013.

- Estimate:

$$\ln(TFP)_{it} = \alpha + \beta_1 \ln(imp)_{it} + \sum \theta_j Control_{it}^j + \varepsilon_{it}$$

- Don't deal with indirect imports (but we test for robustness by including industry by time fixed effects)
- Merge transaction, income tax and employment tax data
- Restrict sample to firms for which TFP estimates available

## 2. Channels of Influence - TFP

	Import status	Complementary inputs	Technology transfer
	(1)	(2)	(3)
Dummy importer	0.029** (0.008)		
ln(variety imports)		0.029** (0.006)	
ln(variety imports advanced)			0.032** (0.007)
ln(variety imports emerging)			0.021** (0.008)
Constant	13.05** (0.068)	13.94** (0.158)	13.94** (0.122)
Observations	119,909	27,474	27,474
R-squared	0.874	0.858	0.858

Regressions include firm & year FE, controls (export status, skill share, size, K/L ratio)

## 2. Imports and Productivity: Summary of Results

- Direct importing of intermediate inputs strongly associated with firm TFP
  - 2.7 to 27% more productive (similar to Chile)
  - Exporter premium for SA in part driven by firms that also import
- Imported varieties complement each other and enhance productivity.
  - 10% rise in the variety of imported inputs associated with a rise in TFP of 0.3%.
- No strong evidence of a diffusion of modern technologies embodied in imported inputs to TFP.
- More work to be done on instrumentation

### 3. Imports and Exports: Channels

- Anticipate impact of imports on exports through two channels (Bas and Strauss-Kahn, 2014)
  - Productivity (Indirect effect)
  - Lower cost of inputs (direct effect)
- Improved profitability of exporting through both channels expected to boost exports through
  - Intensive margin: Raise value of existing exports
  - Extensive margin: New exporters, new products, new destinations

### 3. Preliminary Stats

- Exporter-importer firms trade more, have greater scope, scale, variety and value of exports or imports

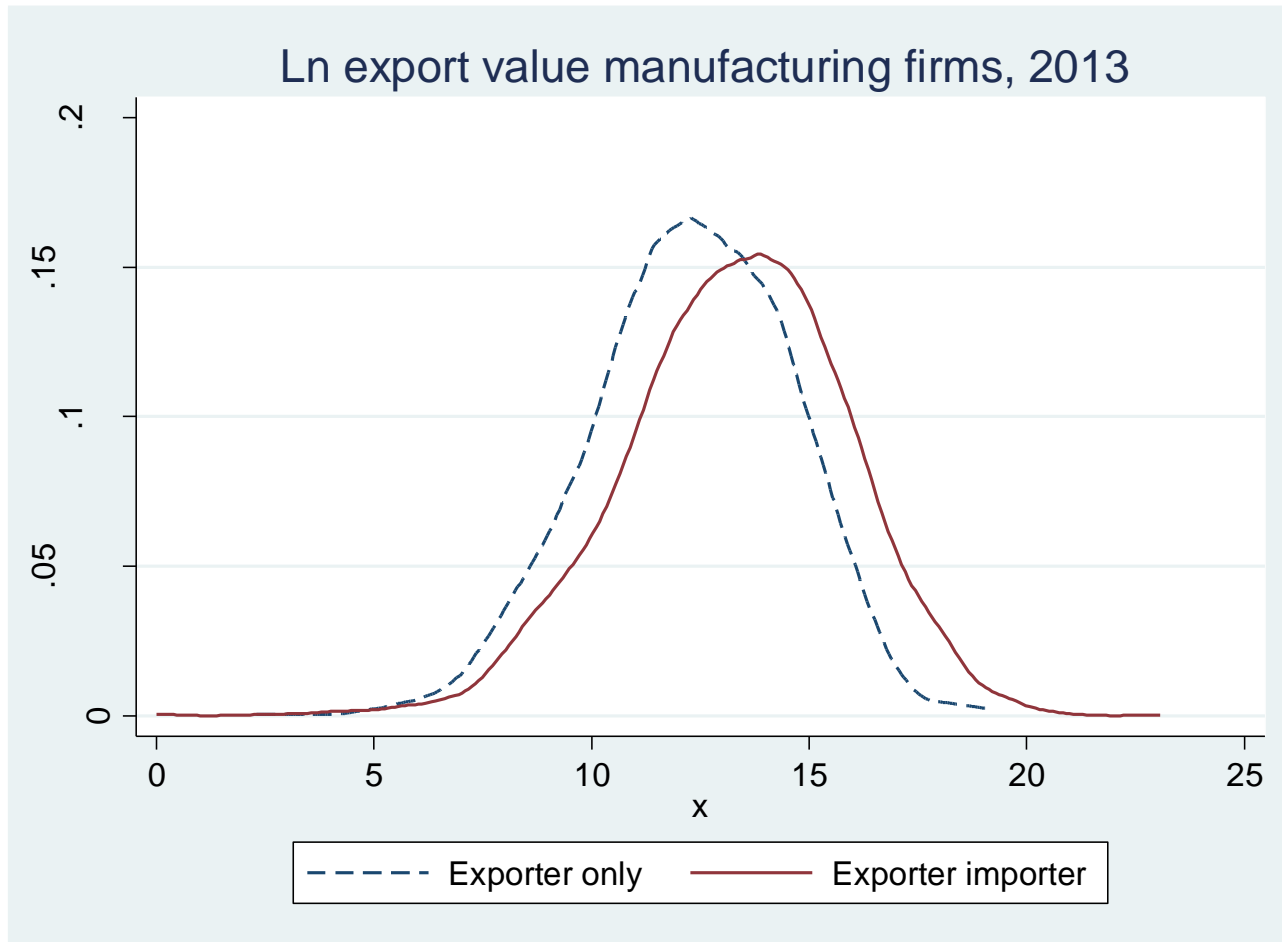
Table : Mean scope, scale, variety and value of manufacturing firm exports, 2009-13

	Export-importer	Exporter only
Scope: products per destination	9.4	7.6
Scale: destinations per product	2.0	1.4
No. variety: product-destination combinations	30.1	11.8
Mean value firm trade (R million)	14.4	2.2

Notes: Calculated as the annual average of each indicator over the period. Trade data are aggregated to the 6-digit level of the Harmonized System (Rev. 2007).

# 3. Preliminary Stats, cont.

The relationships between import status and export value, 2013





### 3. Importing and Exporting

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Export propensity	Export value			Export variety		
Dummy importer(t-1)	0.024** (0.009)						
ln(value imports)(t-1)		0.039* (0.015)			0.018* (0.008)		
ln(variety imports)(t-1)			0.047 (0.036)			0.050** (0.016)	
ln(variety imports HI)(t-1)				0.067* (0.034)			0.049** (0.016)
ln(variety imports non-HI)(t-1)				0.009 (0.030)			0.026+ (0.016)
Observations	76,771	13,297	13,297	20,516	13,297	13,297	20,516
R-squared	0.892	0.912	0.912	0.900	0.929	0.929	0.914

Controls include: prior export status, lagged TFP, skill share, size, K/L ratio. All estimates include firm FE and year FE.

### 3. Imports and Exports: Summary

- *Export propensity*: Prior import status raises the probability that a firm exports in the subsequent period by 2.5 per cent.
- *Complementarity effects*: Strong evidence for export variety, but not export value
- *Technology transfer effects*: Strong evidence for export value and variety

# Conclusion and where to next?

- New firm level insights
  - Notable benefits to international engagement in terms of productivity, employment, and wages.
  - The key role of access to intermediate inputs and capital goods in productivity and growth is highlighted.
  - Exporting – employment dilemma
  
- In stagnant steady-state – situation will not resolve itself without intervention
  
- New research:
  - Exchange rate disconnect – large firms not responding to depreciation
  - Trade and allocative efficiency – Very poor allocative efficiency in SA:
    - Efficient firms not big enough and weak effect from exporting



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