

Exports, imports and decent jobs in South Asia: Evidence from firm-level data

Christian Viegelaahn

Research Department, International Labour Organization (ILO)*

Global Conference on Prosperity, Equality and Sustainability
India International Centre, New Delhi

Institute for Human Development (IHD) and World Bank

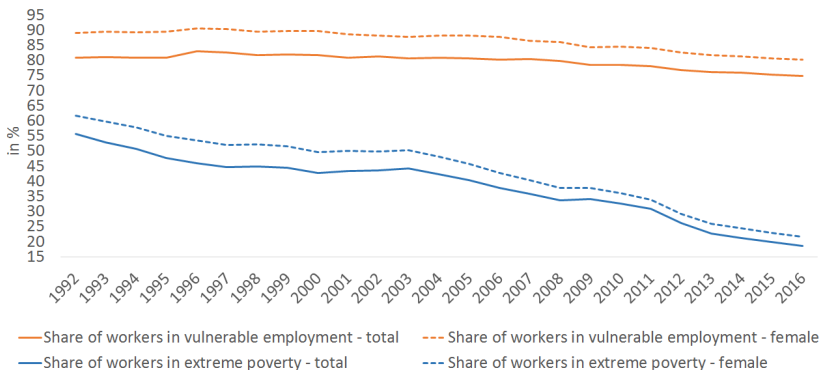
June 2, 2016

*All views expressed in this presentation are those of the author and do not reflect the views of the ILO.



Motivation

Vulnerable employment and working poverty in South Asia (% of total employment)



Source: ILO, Trends Econometric Models, October 2015.

Role of trade for development in South Asia?

SDGs put significant emphasis on the role of trade for **sustainable and inclusive development** (in particular SDGs 8, 10 and 17)

For South Asia, especially **intra-regional trade integration** is viewed by a large number of observers as an under-utilized source of development

Only 5.2% of South Asian trade is intra-regional trade (compared to e.g. 24.2% for ASEAN)

Share of South Asia in world GDP is 3.3%, but share of South Asia in world trade is only 2.6%

Literature: exporting, importing and firm productivity

Firms are considered to benefit from importing through:

- **learning** from new technologies embedded in foreign inputs
- access to a better **quality** of inputs
- access to an increased **variety** of inputs

Ethier (1982), Markusen (1989), Grossman and Helpman (1991)

Firms are considered to benefit from exporting through:

- learning from **buyer-seller relationships**
- **increased competition** from foreign producers forcing firms to become better

De Loecker (2013)

But: also **self-selection** into exporting and importing

Empirical evidence: firms engaged in trade are **larger in terms of employment**, pay **higher wages** and employ **more high-skilled workers**.

Purpose of the paper

Research questions:

What is the quantity and quality of jobs in firms engaged in exporting/importing (vis-à-vis firms that are not) in terms of:

- total **full-time permanent employment**?
- share of **female employment** in total employment?
- share of **temporary employment**?
- average **wage**?
- average **education level** of firms' workforce?

How do South Asian firms differ from firms in the rest of the world?

Data source

Data are taken from the World Bank Enterprise Surveys (WBES)

11 firm-level surveys conducted in Afghanistan (2008, 2014), Bangladesh (2007, 2013), Bhutan (2015), India (2014), Nepal (2009, 2013), Pakistan (2007, 2013) and Sri Lanka (2011)

7,574 observations for manufacturing firms that have information on both exports and imports

Data are representative of formally registered firms that employ at least 5 workers and are not state-owned

For global comparison, also 186 surveys from 121 countries outside South Asia in 2006-14 are used, including 46,468 observations for manufacturing firms

Descriptive statistics

Table: Descriptive statistics on South Asian manufacturing firms

Variable	Mean	Sd.	N
Exporter (=1 if firm exports (in)directly)	0.27	0.44	7574
Importer (=1 if firm imports (in)directly)	0.37	0.48	7574
Log(Sales)	17.21	2.24	6911
Log(Electricity costs)	13.25	2.12	6783
Foreign ownership (=1 if some foreign ownership)	0.03	0.16	7559
Establishment age (years)	20.79	14.86	6805
Full-time permanent employment	163.54	505.72	7567
Share of women in full-time permanent empl. (%)	13.04	21.87	7071
Share of temporary workers in full-time empl. (%)	9.93	18.54	7393
Workers' average education level (years)	7.67	3.41	5686
Log(Average wage)	11.27	1.09	6864

Source: Authors' calculation based on the World Bank Enterprise Surveys. Only those establishments are included that have non-missing information on both exports and imports.

Methodology: quantifying importer/exporter premia (I)

OLS regression on **full sample**:

$$L_{ctmi} = \alpha + \beta \cdot IM_{ctji} + \gamma \cdot EX_{ctji} + \delta Z_{ctji} + \epsilon_{ct} + \epsilon_j + \epsilon_{ctji}$$

OLS regressions **by sector**:

$$L_{ctji} = \alpha_j + \beta_j \cdot IM_{ctji} + \gamma_j \cdot EX_{ctji} + \delta_j Z_{ctji} + \epsilon_{ct} + \epsilon_{ctji}$$

OLS regressions **by survey**:

$$L_{ctji} = \alpha_{ct} + \beta_{ct} \cdot IM_{ctji} + \gamma_{ct} \cdot EX_{ctji} + \delta_{ct} Z_{ctji} + \epsilon_j + \epsilon_{ctji}$$

c : country, t : year, j : manufacturing sector, i : firm

L : labour market indicator

IM : =1 if firm is importer, =0 otherwise

EX : =1 if firm is exporter, =0 otherwise

Z : control variables

Exports, imports and full-time permanent employment (I)

Results on full sample:

	Dependent variable: Log(Full-time permanent employment)				
	(1)	(2)	(3)	(4)	(5)
Exporter	1.359***	0.576***	0.494***	0.488***	0.487***
Importer	0.795***	0.204***	0.168***	0.167***	0.149***
Log(Sales)		0.444***	0.336***	0.334***	0.339***
Log(Electricity costs)			0.166***	0.167***	0.168***
Foreign ownership				0.120	0.070
Establishment age (yrs)					0.002*
Survey FE	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes
N	7567	6907	6557	6552	5859

Exports, imports and full-time permanent employment (II)

Differences between South Asia and the rest of the world:

	South Asia		Rest of world		Difference
	Coefficient	N	Coefficient	N	
Exporter	0.49***	5859	0.31***	36075	0.18***
Importer	0.15***	5859	0.08***	36075	0.07**

Results by sector:

Sector	Exporter	Importer	N
Food, beverages and tobacco	0.53***	0.25**	848
Textiles	0.57***	0.25***	698
Garments and leather	0.66***	0.25***	1031
Wood and paper	0.46***	-0.09	339
Chemicals and pharmaceuticals	0.22*	0.03	515
Non-metals and plastic materials	0.46***	0.01	642
Metals	0.44***	0.17**	631
Machinery	0.08	0.15**	683
Other manufacturing	0.28***	0.10	472

Exports, imports and female employment (I)

Results on full sample:

Dependent variable: Share of women in full-time permanent employment (%)

	(1)	(2)	(3)	(4)	(5)
Exporter	8.920***	7.864***	8.091***	8.125***	8.579***
Importer	2.926***	2.057***	2.124***	2.156***	2.179***
Log(Sales)		0.777***	0.830***	0.839***	0.878***
Log(Electricity costs)			-0.001	-0.002	0.161
Foreign ownership				-0.390	-0.972
Establishment age (yrs)					-0.124***
Survey FE	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes
N	7071	6561	6269	6264	5601

Exports, imports and female employment (II)

Differences between South Asia and the rest of the world:

	South Asia		Rest of world		Difference
	Coefficient	N	Coefficient	N	
Exporter	8.58***	5601	3.14***	34724	5.44***
Importer	2.18***	5601	2.30***	34724	-0.12

Results by sector:

Sector	Exporter	Importer	N
Food, beverages and tobacco	11.73 ***	-6.15 ***	809
Textiles	11.40 ***	8.25 ***	680
Garments and leather	15.67 ***	5.00 ***	1014
Wood and paper	5.74 *	0.93	333
Chemicals and pharmaceuticals	0.61	2.07	501
Non-metals and plastic materials	2.78	2.02	598
Metals	-0.28	2.43 *	585
Machinery	-0.16	2.34 *	632
Other manufacturing	-0.90	1.42	449

Exports, imports and temporary employment (I)

Results on full sample:

Dependent variable: Share of temporary workers in full-time employment (%)					
	(1)	(2)	(3)	(4)	(5)
Exporter	0.083	-0.338	-0.381	-0.402	-0.566
Importer	-0.683	-1.241**	-1.255**	-1.282**	-1.696***
Log(Sales)		0.164	0.127	0.125	0.061
Log(Electricity costs)			0.054	0.051	-0.106
Foreign ownership				0.909	-0.487
Establishment age (yrs)					0.037**
Survey FE	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes
N	7393	6804	6473	6468	5779

Exports, imports and temporary employment (II)

Differences between South Asia and the rest of the world:

	South Asia		Rest of world		Difference
	Coefficient	N	Coefficient	N	
Exporter	-0.57	5779	2.29***	35221	-2.86***
Importer	-1.70***	5779	-0.13	35221	-1.56**

Results by sector:

Sector	Exporter	Importer	N
Food, beverages and tobacco	2.96	-4.31**	840
Textiles	-1.21	1.43	691
Garments and leather	-1.89	0.99	1015
Wood and paper	1.68	-4.17*	334
Chemicals and pharmaceuticals	-0.14	-4.01*	514
Non-metals and plastic materials	3.74	-2.20	629
Metals	-3.01	-0.10	622
Machinery	0.69	0.45	674
Other manufacturing	-5.37**	-2.53	460

Exports, imports and workers' years of education (I)

Results on full sample:

Dependent variable: Production workers' average education level (yrs)					
	(1)	(2)	(3)	(4)	(5)
Exporter	0.641***	0.418***	0.376***	0.355***	0.408***
Importer	0.528***	0.240***	0.233***	0.215***	0.197**
Log(Sales)		0.147***	0.129***	0.127***	0.131***
Log(Electricity costs)			0.028	0.024	0.028
Foreign ownership				0.488**	0.512*
Establishment age (yrs)					0.001
Survey FE	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes
N	5686	5198	4920	4915	4230

Exports, imports and workers' years of education (II)

Differences between South Asia and the rest of the world:

	South Asia		Rest of world		Difference
	Coefficient	N	Coefficient	N	
Exporter	0.41***	4230	-0.09	16133	0.50***
Importer	0.20**	4230	0.32***	16133	-0.13

Results by sector:

Sector	Exporter	Importer	N
Food, beverages and tobacco	0.72 **	0.86 ***	534
Textiles	0.62 **	0.28	400
Garments and leather	0.57 **	0.32	552
Wood and paper	0.19	0.13	299
Chemicals and pharmaceuticals	0.16	-0.16	342
Non-metals and plastic materials	0.32	-0.17	547
Metals	0.39	-0.34	557
Machinery	0.37 *	0.36 *	573
Other manufacturing	0.08	0.34	426

Exports, imports and the average wage (I)

Results on full sample:

	Dependent variable: Log(Average wage)				
	(1)	(2)	(3)	(4)	(5)
Exporter	0.170***	-0.196***	-0.200***	-0.201***	-0.191***
Importer	0.274***	0.009	0.004	0.003	-0.013
Log(Sales)		0.201***	0.197***	0.197***	0.201***
Log(Electricity costs)			0.010	0.010	0.004
Foreign ownership				0.058	0.039
Establishment age (yrs)					-0.003***
Survey FE	Yes	Yes	Yes	Yes	Yes
Sector FE	Yes	Yes	Yes	Yes	Yes
N	6864	6681	6503	6498	5807

Exports, imports and the average wage (II)

Differences between South Asia and the rest of the world:

	South Asia		Rest of world		Difference
	Coefficient	N	Coefficient	N	
Exporter	-0.19***	5807	-0.15***	35367	-0.04
Importer	-0.01	5807	-0.04***	35367	0.03

Results by sector:

Sector	Exporter	Importer	N
Food, beverages and tobacco	-0.15	-0.00	845
Textiles	-0.19**	-0.13	689
Garments and leather	-0.31***	-0.12*	1024
Wood and paper	-0.15	0.07	335
Chemicals and pharmaceuticals	-0.05	0.01	511
Non-metals and plastic materials	0.01	-0.17	634
Metals	-0.02	0.20*	626
Machinery	-0.16*	0.07	675
Other manufacturing	-0.07	0.14	468

Summary of results

Exporters and importers in South Asia employ **more full-time permanent workers** than non-trading firms; the difference is particularly large in South Asia

Exporters and importers in South Asia employ **more women** than non-trading firms; for exporters, the difference is particularly large in South Asia

Firms engaged in trade employ **less temporary workers**, relative to non-trading firms, in global comparison

Firms engaged in trade employ workers with **more years of education** than non-trading firms; for exporters, the difference is particularly large in South Asia

When comparing firms with the same sales value, exporters pay on average **lower wages** than non-exporters in South Asia

Conclusion

Policy conclusions:

- Firms may gain from trade, but do not always seem to pass on these gains to their workers
- Firms engaged in trade seem to need better-educated workers, which may be a bottleneck in some countries

Future work:

- Divide sample into firms that face obstacles to their business and firms that do not
- Look specifically into the role of intra-regional trade