Export Markets and Labor Allocation in a Low-income Country

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Contribution

The paper contributes to several strands of the literature

- **Trade literature:**
  - Estimates on how trade policy can affect labor outcomes
  - Estimates on how trade policy can boost productivity
  - Highlights the importance of formal vs informal channel

- **Macro-development:**
  - Sheds light on the nature of distortions in macro models
  - Potential driver of productivity and wage gaps between sectors
  - Complements literature on sectoral gaps with a direct mapping to Gollin, Lagakos, and Waugh (2014) and Hsieh and Klenow (2009)

The exogenous tariffs

- Large tariff reduction averaging 20.9%
- A lot of heterogeneity – favoring manufacturing

Table 1: Summary of U.S. tariffs applied to imports from Vietnam

Industry	Number of industries	Mean pre-BTA tariff (Column 2)	Mean post-BTA tariff (MFN)	Mean change in tariff	Standard deviation of tariff change
Traded industries	34	0.234	0.025	-0.209	0.179
All industries	60	0.133	0.014	-0.119	0.170
Manufacturing	22	0.338	0.036	-0.302	0.153

Notes: The tariffs reported are simple averages across the indicated set of industries. Non-traded industries, which are included in "All industries" have been assigned a tariff of 0 both before and after the BTA.

The exogenous tariffs

Exports to US increased from 3.6% to 10.4% of GDP
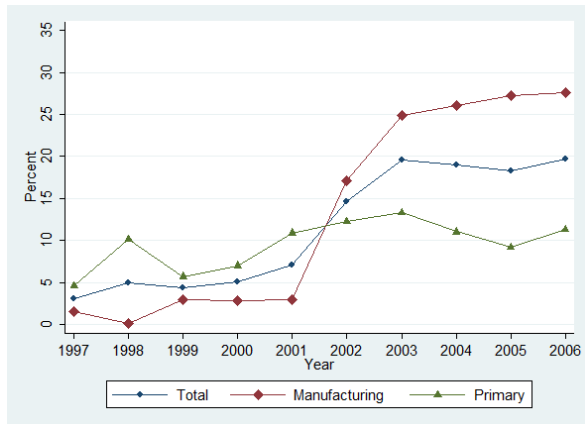
The exogenous tariffs

Reasons to be confident about exogeneity:

- External shocks that would have affected exports to the EU do not drive results
- Not subject to bilateral trade negotiations: Column 2 to MFN
- Not correlated with previous export levels or trends
- Not correlated with previous levels or trends in shares of household businesses
  - testing using 1998–2001 instead of 1993-1998

- Remarkable consistency in estimates
    - True for both the whole economy and manufacturing only
    - Similar estimates using information on individual-level panel data
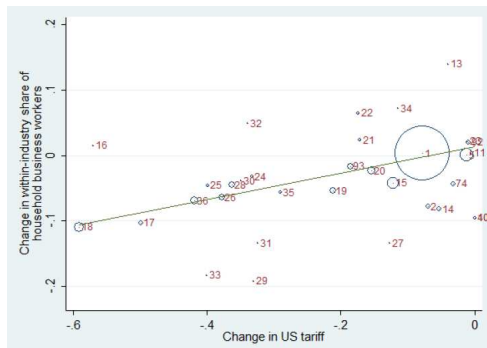
- Including both household and formal businesses is key
- A decrease in tariffs induces
  - Reallocation from household businesses to formal businesses within sectors
  - No shifts in the sectoral allocations of total employment

No sectoral reallocation

Table 7: Industry Employment and Tariffs

Dependent variable: Share of industry employment in the indicated set of industries

	(1) Traded	(2) All	(3) Manufacturing
Panel A: Enterprise Sector (Enterprise Survey Data)			
Tariff	-0.0265**	-0.0108**	-0.0257
	(0.0113)	(0.00533)	(0.0170)
Observations	66	110	44
Within R-squared	0.232	0.124	0.167
Panel B: Overall Employment (VHLSS Data)			
Tariff	-0.00464	-0.000263	0.00290
	(0.00555)	(0.00257)	(0.0321)
Observations	68	120	44
Within R-squared	0.023	0.000	0.001

Notes: Standard errors are clustered at industry level; ***, **, and * denotes significance at 1, 5, and 10 percent level, respectively. The dependent variable is the share of workers and is calculated as the number of workers in industry j divided by the total number of workers in the respective group. The total number of workers includes workers in (i) traded industries for column (1), (ii) all industries for column (2), and (iii) traded manufacturing industries for column (3). In Panel A, the industry employment shares are data from the 2000 and 2003 enterprises surveys. These employment estimates include all workers in enterprises at the end of 2000 and 2003 respectively. In Panel B, the industry employment shares are based on the 2002 and 2004 VHLSSs and include workers between the ages of 20 and 64 inclusive. All regressions include year fixed effects and industry fixed effects, using the within transformation.

Surprising result: No effects on sectoral allocations
Why do the same mechanisms not apply to inter-sector worker mobility?

- Fixed costs and heterogeneous firms
- Productivity differences
- Relative price changes
    - Could test this channel by looking at regional wage impacts

- What is the relationship between prices and reallocation across sectors?
  - This is a key mechanism of structural transformation models
  - There are substantial sectoral transformation effects in the data

Table 2: Share of employment in household businesses

	All	Excluding agriculture and fisheries	Traded manufacturing
Panel A: Share of employment in household businesses			
2002	0.847	0.672	0.656
2004	0.814	0.626	0.600
Panel B: Decomposing changes in household business employment			
Within industries	-0.017	-0.040	-0.059
Between industries	-0.016	-0.006	0.003
Total	-0.033	-0.046	-0.056

Notes: Authors' own estimates based on the 2002 and 2004 VHLSSs. Based on workers aged 20 to 64 inclusive. Survey sampling weights included.

Productivity results

Table 8: Productivity gap per hour between the enterprise and household business sectors in manufacturing

	Manufacturing		Textiles and apparel		Ho Chi Minh City and Dong Nai	
	ARPL	Wages	ARPL	Wages	ARPL	Wages
	(1)	(2)	(3)	(4)	(5)	(6)
Productivity gap	9.0	1.82	6.6	1.70	7.0	1.48
Productivity gap adjusted by hours worked & human capital	6.0	1.24	4.7	1.28	5.5	1.15
Share of hours reallocated to enterprises due to the BTA	0.050	0.050	0.086	0.086	0.053	0.053
Initial share of hours in the household business sector	0.597	0.597	0.615	0.615	0.380	0.380
Annual growth in outcome per hour worked (%)	3.5	0.5	5.8	1.0	2.7	0.3

The productivity gap for the average revenue product of labor is the ratio of revenue per worker in the enterprise sector to revenue per worker in the household business sector. The productivity gap for wage earnings is the ratio of annual earnings per worker in the enterprise sector to annual earnings per worker in the household business sector. See section 6 and Appendix B for further details on the calculations and data sources.

Productivity results

- Great documentation of differences between household and formal businesses
    - Formal are more productive (in ARPL) by a factor of 6 after controlling for hours and observed human capital
    - Formal pay higher wages by a factor of 1.24
- Worker heterogeneity matters
    - Accounts for 70% of wage gap and 37% of ARPL gap
    - Could go higher by accounting for unobserved
        - by using the individual-level panel (Hicks et. al. ,2017; Alvarez, 2017)
    - This could lower the estimated gains in productivity

Some additional questions

- Differences between household and informal businesses
  - "Some private businesses required to register might not do so and illegally operate as a household business"
  - Do they pay taxes and adhere to labor regulation?
  - How many informal non-household businesses there are?
  - What are the differences in burdens between hh businesses and formal?
- Why are falsification tests done using 1998-2001 instead of 1998-2001? There might be changes in recent trends
- Why does the suggested mechanism (fixed costs plus heterogeneity in technology) not apply across sectors?