Trade Liberalization and Labor Market Dynamics

COMMENTS BY

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Summary

- The author develops a structural dynamic equilibrium model of the Brazilian labor market, and uses this model to simulate the impact of trade liberalization in the high-tech sector.

  - The model features four sectors (plus a non-productive "residual" sector), and three factors of production.

  - Workers earn sector-specific wages based on their skill level, age, and experience in the sector, along with person-specific shocks.

  - Cost of moving between sectors due both to wage change and mobility costs.

Summary

- Paper is similar in sprit to Artuc, Chaudhuri and McLaren (2010), but obtains much smaller cost of mobility.
  - 1.4 to 2.7 times annual average wages compared to 50 times average annual wages for Brazil.
  - The authors model allows for heterogeneity among workers, including the importance of sector-specific experience.

Summary

- This is an extremely important topic!

- The author has developed an impressive model and estimation strategy, and has carefully explained the choices he has made throughout the project.
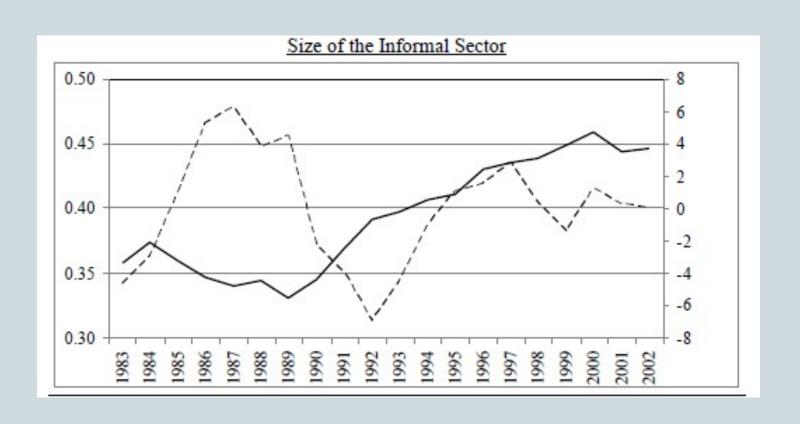
The Residual Sector

• Male, more educated and older workers attach higher values to the Residual Sector (have higher reservation wages).

•Costs of mobility from the residual sector are extremely high (around 12); the model estimates a high variance to explain frequent movements into and out of the residual sector.

Table 13: Transition Rates (%) 1995-2005: Data vs. Model

	Residual	Agr/Min	LT Manuf	HT Manuf	Non-Tradeables
A. Data					
Residual	79.44	1.71	2.74	0.62	15.50
Agr/Mining	17.13	76.52	2.06	0.49	3.80
Low-Tech	14.10	0.79	79.50	0.72	4.89
High-Tech	10.58	0.58	2.13	81.59	5.12
Non-Tradeables	12.24	0.26	0.86	0.32	86.32
B. Model					
Residual	80.52	1.65	2.68	0.45	14.69
Agr/Mining	18.37	77.68	0.97	0.13	2.86
Low-Tech	14.42	0.76	79.41	0.62	4.79
High-Tech	9.30	0.80	2.47	82.04	5.38
Non-Tradeables	12.57	0.32	0.82	0.31	85.97

The Residual Sector

- The informal sector accounted for over half of all jobs in Brazil during this time period, and about 40 percent of GDP.

- Consider the Following Figures from Bosch, Goni-Pacchioni, and Maloney (2010), who found that trade liberalization accounted for a 1 percent of the increase in informal sector between 1983 and 2002.
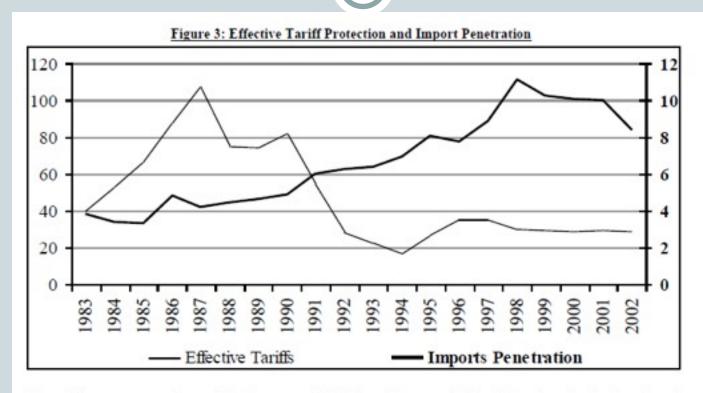
Bosch, Goni-Pacchioni, and Maloney (2010)

Size of the Informal Sector

Bosch, Goni-Pacchioni, and Maloney (2010)

Table 1: Changes in Informality by sector 1983-1988 and 1988-2002

		Informality Share			
		1983	2002	Change 1983-1988	Change 1988-2002
Code	All sectors	0.36	0.45	-1.37	10.21
	Manufacturing	0.14	0.30	0.09	16.29
400	Nonmetallic Mineral Goods	0.16	0.26	-0.79	10.56
401	Metallic Mineral Goods	0.12	0.32	-0.57	20.05
402	Machinery and Equipment	0.06	0.22	0.66	15.60
403	Electrical and Electronic Equipment and Components	0.05	0.26	0.14	20.30
404	Vehicle and Vehicle Parts	0.04	0.10	-0.11	6.35
405	Wood Sawing, Wood Products and Furniture	0.41	0.64	3.27	20.03
406	Paper Manufacturing, Publishing and Printing	0.14	0.31	0.79	16.00
407	Rubber	0.06	0.13	-0.32	7.76
408	Footwear and Leather and Hide Products	0.19	0.27	0.50	7.37
409	Non petrochemical Chemicals	0.06	0.14	-0.61	8.43
410	Petroleum Refining and Petrochemical	0.04	0.09	-0.46	5.90
411	Pharmaceutical Products, Perfumes and Detergents	0.13	0.19	-0.35	6.57
412	Plastics	0.07	0.19	-0.49	12.48
413	Textiles	0.10	0.20	1.19	8.82
415	Apparel and apparel accessories	0.26	0.49	2.24	20.37
416	Food	0.17	0.37	0.69	19.20
417	Beverages	0.05	0.09	-0.55	4.26
	Services	0.46	0.50	-1.62	6.22
700	Distribution of Water	0.05	0.20	0.07	15.17
701	Banking and Insurance	0.04	0.20	1.84	14.33
702	Transportation	0.36	0.47	-4.30	15.01
703	Postal Services, Phones	0.03	0.18	0.73	14.34
704	Lodging	0.58	0.60	-1.05	3.67
705	Repairs	0.76	0.79	-4.01	6.99
706	Clothing	0.92	0.89	0.04	-3.08
707	Domestic workers	0.66	0.52	-4.03	-9.81
708	Artistic, Radio	0.40	0.65	2.51	23.07
709	Technical	0.42	0.60	-0.41	18.59
710	Auxiliary	0.31	0.41	3.37	6.63
711	Social Services	0.22	0.41	0.53	19.25
712	Doctors	0.16	0.22	0.91	4.67

Bosch, Goni-Pacchioni, and Maloney (2010)

Figure 3: Effective Tariff Protection and Import Penetration

Note: Figures correspond to weighted averages of all industrial sectors (with weights given by the size of each industrial sector). Tariffs (left axis) are obtained from Kume et al. (2003) for 1987-1998; Pinheiro and Bacha de Almeida (1994) for 1983-1986. Imports penetration (right axis) corresponds to weighted imports/consumption by industry and are obtained from Muendler (2002) for 1987-1999; Pinheiro and Bacha de Almeida (1994) for 1983-1986; Nassif and Pimentel (2004) for 1999-2002.

Skilled versus Unskilled Workers

- There is a large literature studying the gap between skilled and unskilled workers, and I think it may be worth discussing that gap more in this paper.
  - Model assumes that the sector-specific returns to experience are the same across all skill-levels. Is this a valid assumption?
  - Costs of mobility between sectors highest for high-skill workers (high school graduates and above).

Policy Simulations

- The author conducts simulations regarding the impact of retraining programs, in which participants gain sector-specific skills.

Table 18: Welfare Changes (in %) of Workers Who Were Employed in HT Manufacturing The Year Before The Shock - Different Labor Market Policies

	No Policy	Retraining 1	Retraining 2	Moving Subsidy 1	Moving Subsidy 2
Overall	-8.9	-7.7	-5.6	-0.9	-6.1
By Demographics					
Old/Unskilled	-6.4	-6.3	-4.6	+9.0	-1.3
Old/Skilled	-10.7	-9.4	-6.8	-0.7	-7.5
Young/Unskilled	-5.4	-5.3	-4.9	+4.0	-1.9
Young/Skilled	-10.3	-8.1	-5.8	-5.3	-8.4

Shock of 30% in the price of High-Tech Manufacturing
Perfect Physical Capital Mobility.