

A New Empirical Perspective on Globalization and Wages

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- Outline
 - Motivation
 - Model structure
 - Protection Patterns
 - Key results
 - Conclusions and Extensions



Model Structure

- Standard LINKAGE specification
- Comparative static simulation
- 3 production archtypes
 - Crops, livestock, all else
- Nested Armington and CET trade structures
- Closure rules
 - Investment is savings driven
 - Fixed government fiscal balance
 - Fixed trade balance (i.e. exogenous foreign saving)
- Change in labor specification
 - Skilled labor is a complement to capital, not a direct substitute for unskilled labor.



Bilateral Tariffs

<i>Exporter</i>	<u>Importing Region</u>																
	<i>CHN</i>	<i>NIE</i>	<i>REA</i>	<i>IND</i>	<i>RAS</i>	<i>POE</i>	<i>CUS</i>	<i>EUR</i>	<i>CAM</i>	<i>BG3</i>	<i>LAT</i>	<i>CIT</i>	<i>SAC</i>	<i>RSA</i>	<i>RSS</i>	<i>RW</i>	<i>Ave</i>
<i>China</i>	0	3.2	14	44	71	5.6	5.8	6.1	17	15	11	11	16	11	25	23	8
<i>Asian Tigers (HKG, KOR, SGP, TWN)</i>	30	2	12	44	59	4.7	3.5	3.7	8.2	14	11	10	8	10	13	20	9.5
<i>Rest of East Asia</i>	16	3.2	13	42	56	3.9	2.7	4.5	11	7.5	4.4	6.7	6.8	12	20	22	6.4
<i>India</i>	16	3.1	11	0	42	3.4	4.5	5.5	13	14	11	7.8	9.2	9	16	14	8.2
<i>Rest of South Asia</i>	18	2.9	8.4	42	50	3.8	11	8.5	9.5	8.5	3.8	6.4	5.1	5.6	18	18	10
<i>Japan Australia and New Zealand</i>	28	4.5	16	40	62	13	2.9	5.5	9.1	11	12	7	13	9.7	20	16	8.9
<i>Western Europe</i>	13	8.4	13	43	25	19	0.1	2.8	11	2.9	8.8	5.6	4.3	4.5	11	11	6.1
<i>Canada and the United States</i>	24	4.8	7.7	33	47	5.9	2.9	0.3	6.6	11	8.3	7.6	4.3	7	14	14	3.1
<i>Central America and the Caribbean</i>	14	2.1	4.3	3.8	14	9.4	7.4	8	13	9.5	9.5	6.6	2.8	0.6	2	8.5	8.1
<i>Argentina, Brazil, and Mexico</i>	15	6.2	13	51	46	6.3	0.7	9.8	7.7	11	9.7	5.6	4.5	9.4	13	12	5.7
<i>Rest of Latin America</i>	6.7	2.9	2.2	28	4.3	2	2	6.2	7.9	8.1	8.2	2	1.3	0.5	2.8	6.9	4.8
<i>CEA and FSU</i>	11	2.3	7.2	41	54	4.5	2	4.5	2.2	4.1	5.4	7.1	4.1	4.1	11	16	6
<i>Southern Africa Customs Union</i>	26	4.7	21	40	49	9.6	1.9	4.6	6.1	5.1	5	4.9	0	5.8	18	10	7
<i>Rest of Southern Africa</i>	12	2.8	4.6	21	44	1.9	3.7	20	5.1	11	5.3	4.9	9	5.1	13	13	12
<i>Rest of Sub Saharan Africa</i>	7.4	3.3	9.1	11	67	6.4	1.2	3.2	1.9	16	5.3	3.6	0.7	6.8	17	11	4.2
<i>Rest of the World</i>	10	2.9	4.4	21	60	1.2	2.7	3.2	5.8	13	3.7	9.6	1.1	5.6	12	13	5.2
<i>Ave</i>	24	4.6	12	35	52	8.6	2.3	1.6	9.3	7.3	8.8	7.5	5.7	7	15	14	5.4



Sectoral Tariffs by Importing Region

<i>Sector</i>	<u>Importing Region</u>																
	<i>CHN</i>	<i>NE</i>	<i>REA</i>	<i>IND</i>	<i>RAS</i>	<i>POE</i>	<i>CUS</i>	<i>EUR</i>	<i>CAM</i>	<i>BG3</i>	<i>LAT</i>	<i>CIT</i>	<i>SAC</i>	<i>RSA</i>	<i>RSS</i>	<i>RW</i>	<i>Ave</i>
<i>Rice wheat and other grains</i>	-5.6	114	54	37	-8.9	296	0.4	7.9	-10	0.2	-11	-7.2	7.1	5.9	18	6.7	54
<i>Other crops</i>	14	12	13	37	63	13	4.7	7.4	15	7.5	8.8	7.6	3.1	11	19	16	9.5
<i>Livestock</i>	20	5.1	6.5	20	42	4.8	0.7	6	9.4	4.3	6.1	6.8	0	3.8	14	31	8.4
<i>Fossil fuels</i>	3.4	3	0.9	3.5	55	0.4	0.6	0.1	5.8	14	11	1.8	0	3.7	12	9	1.6
<i>Other natural resources FOR and OMN</i>	3.1	0.8	2.6	4.8	34	0	0.1	0	8.3	1.8	7.3	4.3	0.5	4.7	18	12	1.5
<i>Food processing</i>	17	16	38	62	42	28	8.8	8.1	13	1.2	13	14	12	11	14	33	15
<i>Textile</i>	58	2.9	21	60	73	7.2	6.9	1.7	15	9.6	13	9.6	13	18	32	27	14
<i>Wearing apparel and leather goods</i>	43	3	16	58	78	8	11	4.8	25	8.6	15	13	25	17	34	30	9.2
<i>Petroleum and coal products</i>	8	6.4	7.6	24	59	2.5	3.3	0.4	8.4	11	6.9	6.4	2.6	7.4	14	21	5.6
<i>Chemical rubber and plastic products</i>	20	4.3	13	61	69	3.3	2.6	0.8	7.8	6.5	9.2	8.7	3.8	6.3	15	13	5.1
<i>Metals</i>	12	3.8	9.1	52	82	1.3	1.7	0.6	7.4	5.7	8.9	5.7	4	7.9	16	11	4.1
<i>Wood products and pulp and paper</i>	22	2.8	11	44	60	1.8	0.5	0.6	10	3.4	11	8.4	5.7	11	20	18	3.2
<i>Other manufacturing</i>	30	3.7	13	51	66	3	1.7	1.3	8.8	11	12	9.2	8.1	7.3	18	16	5.2
<i>Non tradables</i>	1.4	0	0	0	0	2.7	0	0	0	0	2	1	0	0.1	0	0	0.4
<i>Ave</i>	24	4.6	12	35	52	8.6	2.3	1.6	9.3	7.3	8.8	7.5	5.7	7	15	14	5.4



Sectoral Tariffs Faced by Exporting Region

<u>Sector</u>	<u>Exporting Region</u>															<u>Ave</u>	
	<u>CHN</u>	<u>NE</u>	<u>REA</u>	<u>IND</u>	<u>RAS</u>	<u>POE</u>	<u>CUS</u>	<u>EUR</u>	<u>CAM</u>	<u>BG3</u>	<u>LAT</u>	<u>CIT</u>	<u>SAC</u>	<u>RSA</u>	<u>RSS</u>		<u>RW</u>
<i>Rice wheat and other grains</i>	35	12	56	23	20	108	83	6.5	17	12	9.8	6.4	109	-0.1	42	15	54
<i>Other crops</i>	11	11	9.2	7.9	17	25	10	4.5	9.5	9.5	6.2	20	21	26	9.3	14	9.5
<i>Livestock</i>	4.5	6	19	2.5	4.3	8.4	6.8	5.3	5.6	2.3	7.9	35	4.3	19	11	14	8.4
<i>Fossil fuels</i>	3.6	7.9	2	25	0.7	1.8	0.4	0.8	3.7	2.6	2.5	1	1.7	1.2	1.3	1.8	1.6
<i>Other natural resources FOR and OMN</i>	2.2	5.3	1.2	0.8	1.1	1	1	2.2	0.8	1.7	0.9	1.4	0.7	2.6	0.7	1.6	1.5
<i>Food processing</i>	20	32	17	13	20	41	18	8.4	25	20	13	22	29	49	11	15	15
<i>Textile</i>	15	33	17	13	11	29	7	5.3	12	7.3	9.8	10	15	9.5	8.3	12	14
<i>Wearing apparel and leather goods</i>	9.3	15	12	11	12	12	12	4.9	12	4.7	12	9.1	10	12	9	12	9.2
<i>Petroleum and coal products</i>	8.5	7.7	5.7	3.9	8.9	7.1	3.9	3.6	6.9	5.3	5.6	3.4	5.4	2.7	16	9.8	5.6
<i>Chemical rubber and plastic products</i>	11	15	11	10	11	8.5	4.5	2.6	5	5.9	5.3	6.6	7.2	6.5	5.9	13	5.1
<i>Metals</i>	4.5	10	5.5	8.4	16	8.8	2.2	2.3	5	4.8	3.2	4.6	4.2	7.1	5.2	8.3	4.1
<i>Wood products and pulp and paper</i>	4.4	11	5.4	13	12	6.6	2	2.2	9.1	3.7	4	5.9	6.4	7.8	3.1	9.2	3.2
<i>Other manufacturing</i>	6.4	7.8	3.6	10	6.8	8.5	4	3.8	5.4	3	7.5	7.6	9	9.5	6.3	8	5.2
<i>Non tradables</i>	0.8	0.8	1	0.4	0.5	0.4	0.5	0.2	0.7	0.6	0.6	0.8	1	0.5	0.6	0.6	0.4
Ave	8	9.5	6.4	8.2	10	8.9	6.1	3.1	8.1	5.7	4.8	6	7	12	4.2	5.2	5.4



Export Taxes/Subsidies Imposed by Exporting Region

<u>Sector</u>	<u>Exporting Region</u>																
	<u>CHN</u>	<u>NE</u>	<u>REA</u>	<u>IND</u>	<u>RAS</u>	<u>POE</u>	<u>CUS</u>	<u>EUR</u>	<u>CAM</u>	<u>BG3</u>	<u>LAT</u>	<u>CIT</u>	<u>SAC</u>	<u>RSA</u>	<u>RSS</u>	<u>RW</u>	<u>Ave</u>
<i>Rice wheat and other grains</i>	37	-18	-24	1.5	-3.3	-2.7	-0.4	-6.7	0.3	13	-6.9	9.9	6.3	5.9	6.9	-2.4	-0.7
<i>Other crops</i>	-6.7	0	3.3	0.4	0	-1.3	1.6	-0.9	0	7.6	-0.3	1.2	0.3	8.3	12	1.7	1.7
<i>Livestock</i>	9	0	8.1	0.5	0.3	-5.4	-1.8	-14	0	16	3.7	-5.6	-2.7	20	22	-10	-6.5
<i>Fossil fuels</i>	21	0.3	3.4	0.2	0	0.6	1.6	0	0.3	0	1.1	1.8	-3.6	46	10	0.5	2
<i>Other natural resources FOR and OMN</i>	-1	0	3.5	0.6	-2.7	0	2	0.3	1	6	0.2	1.6	-5.6	-0.4	3.8	0.3	0.8
<i>Food processing</i>	2.7	-1.2	-11	3.7	4	-3.5	-0.6	-7.8	2.1	5.2	0.8	-3.9	-1.8	-3.6	3.1	1.3	-4.9
<i>Textile</i>	-5.6	0.2	2.9	4.3	1.6	0	0.3	0.2	0	0.6	-6.4	0.1	-0.1	-5.3	-2.3	-2.8	-0.2
<i>Wearing apparel and leather goods</i>	-2	4.2	5.2	9.8	3.1	0	0.2	0.3	0.5	1.2	-1.5	0	-0.3	-2	0.1	0.3	0.8
<i>Petroleum and coal products</i>	13	0	5.5	0.6	0.4	4.6	3.7	0.2	0	3.2	3.6	3.7	29	8	1.8	1.1	1.6
<i>Chemical rubber and plastic products</i>	-12	0	5.1	0.6	7.1	0	1.2	0.1	0.2	3	-0.2	0.2	-0.3	-8.8	2.2	0.7	0.1
<i>Metals</i>	-6.3	0	4.3	0.6	1.5	0	0.4	0.1	0.8	1	0.3	0.2	-0.6	-7.4	-0.5	0.3	0
<i>Wood products and pulp and paper</i>	-6.6	0	4.3	0.6	0.8	0.1	0.5	0.1	0.1	0.4	0.1	0.1	-0.4	-3.4	4.8	0.8	0.3
<i>Other manufacturing</i>	3.8	0	7.4	0.6	0.4	0	0.6	0.1	0	0.4	1.9	0	0.2	-3.5	-1.2	0.2	0.6
<i>Non tradables</i>	-0.3	0	3.5	0.7	0.5	0.1	6.3	0.3	0.4	0.2	2.1	0.2	-0.2	1.1	1.8	3.5	1.6
Ave	-0.3	0.2	3.5	2.8	2.1	-0.1	1.8	-0.5	0.5	2	0.7	0.2	-1.4	9	6.8	0.9	0.4



Labor Value Added and Import Protection

<i>Exporter</i>	<i>Shares of Global:</i>			<i>Unsk in</i>	<i>Average Tariff</i>		<i>"Simple" ERP</i>	
	<i>VA</i>	<i>Unsk VA</i>	<i>Sk VA</i>	<i>Lab VA</i>	<i>Unsk</i>	<i>Skilled</i>	<i>UnSk VA</i>	<i>Sk VA</i>
<i>China</i>	2.13	6.14	3.40	82.24	-0.57	-0.02	-0.91	-0.03
<i>Asian Tigers (HKG, KOR, SGP, TWN)</i>	3.10	5.94	8.14	65.17	3.58	0.05	4.59	0.06
<i>Rest of East Asia</i>	1.88	4.98	3.23	79.80	4.13	0.10	5.24	0.13
<i>India</i>	1.08	7.02	4.14	81.30	4.76	0.02	6.99	0.03
<i>Rest of South Asia</i>	0.31	6.87	4.32	80.32	-1.08	-0.04	-1.69	-0.06
<i>Japan Australia and New Zealand</i>	19.54	6.25	9.71	62.27	4.26	0.12	4.79	0.13
<i>Western Europe</i>	31.15	7.15	11.45	61.52	0.06	0.01	0.06	0.01
<i>Canada and the United States</i>	27.38	6.65	11.19	60.38	0.00	0.00	0.00	0.00
<i>Central America and the Caribbean</i>	0.31	5.63	4.70	75.43	-0.48	-0.02	-0.61	-0.02
<i>Argentina, Brazil, and Mexico</i>	4.40	5.27	5.81	69.93	0.01	0.00	0.01	0.00
<i>Rest of Latin America</i>	1.10	4.65	4.69	71.77	-0.29	-0.01	-0.44	-0.02
<i>CEA and FSU</i>	2.82	7.25	7.17	72.15	-0.10	0.00	-0.18	-0.01
<i>Southern Africa Customs Union</i>	0.48	7.09	8.78	67.44	0.02	0.00	0.03	0.00
<i>Rest of Southern Africa</i>	0.06	6.56	4.25	79.82	0.70	0.02	1.15	0.04
<i>Rest of Sub Saharan Africa</i>	0.53	7.44	3.88	83.10	2.87	0.11	4.32	0.17
<i>Rest of the World</i>	3.73	5.09	5.15	71.71	0.26	0.01	0.38	0.01



Adjustments in Real Wages and the Real Exchange Rate

<i>Exporter</i>	1	2	3	4	5	6	7	8	9	10	11	12
	<u>Unilateral Liberalization</u>				<u>Market Access</u>				<u>Multilateral Liberalization</u>			
	<i>Unsk</i>	<i>Skilled</i>	<i>Average</i>	<i>Real ER</i>	<i>Unsk</i>	<i>Skilled</i>	<i>Average</i>	<i>Real ER</i>	<i>Unsk</i>	<i>Skilled</i>	<i>Average</i>	<i>Real ER</i>
<i>China</i>	3.75	-1.4	2.83	-6.34	1.99	6.88	2.86	4.62	5.97	5.18	5.83	-2.03
<i>Asian Tigers (HKG, KOR, SGP, TWN)</i>	2.5	2.5	2.5	-7.7	3.9	3	3.6	9.36	6.5	5.3	6.1	1.02
<i>Rest of East Asia</i>	2.87	-5.49	1.18	-15.68	3.02	1.71	2.76	7.74	5.59	-3.94	3.66	-8.91
<i>India</i>	1.79	-10.75	-0.55	-16.68	1.09	5.93	1.99	9.17	3.04	-4.91	1.55	-8.49
<i>Rest of South Asia</i>	9.12	3.54	8.02	-0.84	2.69	2.49	2.65	17.61	11.93	3.8	10.33	16.43
<i>Japan Australia and New Zealand</i>	1.06	6.26	3.02	-3.85	0.85	1.46	1.08	7.87	1.66	8.33	4.18	3.2
<i>Western Europe</i>	0.35	0.94	0.58	-2.02	0.74	0.5	0.65	9.76	1.03	1.43	1.18	6.84
<i>Canada and the United States</i>	0.16	0.27	0.21	-3.51	0.46	-1.07	-0.14	5.79	0.64	-0.55	0.17	1.69
<i>Central America and the Caribbean</i>	3.72	-2.41	2.21	-3.96	3.77	-5.6	1.47	4.29	7.01	-8.15	3.29	-0.09
<i>Argentina, Brazil, and Mexico</i>	0.63	-0.94	0.16	-7.57	0.65	-0.14	0.41	4.55	1.14	-1.29	0.41	-3.7
<i>Rest of Latin America</i>	1.39	-0.64	0.82	-3.69	1.16	-0.2	0.77	5.08	2.35	-0.72	1.48	1.01
<i>CEA and FSU</i>	1.24	-0.73	0.7	-3.01	1.49	0.51	1.22	8.97	2.42	-0.34	1.65	5.77
<i>Southern Africa Customs Union</i>	0.85	-0.45	0.42	-2.57	1.71	-0.81	0.89	12.23	2.62	-1.62	1.24	9.17
<i>Rest of Southern Africa</i>	2.92	0.42	2.42	-3.89	11.01	2.52	9.3	5.9	14.35	1.77	11.81	1.75
<i>Rest of Sub Saharan Africa</i>	1.3	-7.78	-0.23	-1.21	1.67	2.86	1.87	2.34	3.1	-5.11	1.71	1.15
<i>Rest of the World</i>	1.62	-2.8	0.37	-1.74	1.58	0.91	1.39	4.43	2.95	-2.19	1.49	2.62



Conclusions

- More open multilateralism increases average real wages and, in particular, unskilled wages, in all regions considered.
- In a significant majority of regions, liberalization reduces wage inequality.
- In light of this evidence, trade liberalization may be viewed as a primary instrument of both absolute and relative poverty alleviation.
- Nontradeable employment and the real exchange rate play important and relatively neglected roles in global wage adjustments.
- We find little evidence of absolute OECD-NonOECD wage convergence, and certainly nothing to justify import protection as a substitute for domestic policies to increase labor productivity.



Extensions

- Embed the current model in a dynamic framework.
- Examine the role of non-tariff barriers and export policies.
- Examine the role of endogenous growth factors.

