

Evaluating Accession to WTO by China and Chinese Taipei

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Objectives

- Quantify the impact of WTO accession on key economic indicators
 - Take into account important features of China's economy: duty exemptions and labor market distortions
 - Represent accurately changes in trade policies in China and Chinese Taipei

Methodology

- Develop a special version of the GTAP global general equilibrium model
 - Take into account duty exemptions
 - Take into account labor market imperfections
 - A “tax” wedge on unskilled nonagricultural labor estimated to be 34% (Sicular and Zhao, 2002) represents policy-induced barriers to labor movement (e.g. “hukou”);
 - Imperfect transformation between unskilled workers in farm and nonfarm employment – elasticity of transformation of 1.3 based on the econometric estimate from the work of Sicular and Zhao (2002).

Baseline simulation (1997-2007)

- Project the world economy over the period 1997 to 2007
- Take into account differing rates of population growth, technical change and investment in human and physical capital in different regions

Baseline simulation (1997-2007)

- Trade policy in the baseline
 - No change in agricultural protection
 - Elimination of quotas on textiles and apparel for all economies other than China and Taiwan (China)
 - Quota growth rates on textiles and apparel are determined by China's bilateral agreements with the US and the EU.

Representing WTO Accession

- Reduce China's and Chinese Taipei's own protection to the lesser of the tariff binding or the 2001 applied rate
- Effect of trade reforms in China since 1995 viewed as part of China's WTO accession process
- Separate the impact of tariff reductions to 2001 and the remaining reductions to '2007'

China's Trade Reform

- Elimination of textile & clothing quotas
 - Quotas in the U.S. represented as an export tax of 11% and 15%, respectively.
 - Quotas in the European market represented as an export tax of 12% and 15%, respectively.
- Removal of agricultural export subsidies for feedgrains (32%) and plant-based fibers (10%) (Huang and Rozelle, 2002).
- Liberalization of the service sectors (Francois, 2002)
- Automobile sector restructuring captured as a 20% boost to car assembly operations in China (Francois, 2002)

China's Average Tariffs

<i>Weighted Tariffs</i>	
	%
1992	40.6
1995	21.3
1997	14.0
2001	12.2
Post- Accession	6.3*

*5.4% if we use 1997 import weights

- Sharp reductions in tariffs
- Reductions in NTBs: average protective impact around 5%
- Abolition of foreign exchange distortions

Weighted average tariffs in China (agriculture)

	<i>Base 1995</i>	<i>2001</i>	<i>With Accession</i>
	%	%	%
Rice	-5	-3	-3
Wheat	25	12	12
Feedgrains	20	32	32
Vegetables and fruits	-10	-4	-4
Oilseed	30	20	3
Sugar	44	40	20
Cotton	20	17	20
Livestock	-20	-15	-15
Dairy	30	30	11

Weighted average tariffs in China (manufactured goods)

	<i>Base 1995</i>	<i>2001</i>	<i>With Accession</i>
	%	%	%
Food	20	26	10
Beverages and tobacco	137	43	16
Textiles	56	22	9
Apparel	76	24	15
Light manufactures	32	12	8
Petrochemicals	20	13	7
Metals	17	9	6
Automobiles	123	29	14
Electronics	24	10	2

Trade Reform in Taiwan (China)

- Elimination of the clothing quota in the U.S.
 - represented as an export tax of 3%
- Liberalization of the service sectors (Francois, 2002)
- Liberalization of merchandise trade
 - Low tariffs of around 4.5% in 2001 with accession will fall to 3.1%
 - Tariff on electronic products near zero

Weighted average tariffs in Taiwan (China)

	<i>Base 1997</i>	<i>2001</i>	<i>With Accession</i>
	%	%	%
Feedgrains	1.0	1.0	0.0
Vegetables and fruits	35.7	36.9	16.0
Livestock and meat	14.9	14.2	9.9
Processed food	48.1	22.0	13.0
Beverages and tobacco	48.1	22.0	13.0
Apparel	12.8	13.4	11.2
Light manufactures	4.0	4.1	3.4
Petrochemicals	4.2	4.2	2.9
Automobiles	23.9	21.5	13.3

Impact on output in China

	<i>to 2001</i>	<i>to 2007</i>	<i>Difference 2001 - 2007</i>
Rice	-0.7	-2.8	-2.1
Wheat	-2.8	-4.8	-2.0
Oilseeds	-1.8	-9.5	-7.9
Sugar	-0.1	-6.6	-6.5
Cotton	-11.6	2.4	15.8
Livestock	1.3	2.6	1.3
Bev/tobacco	-23.8	-49.0	-33.0
Textiles	-12.1	1.7	15.6
Apparel	-3.4	51.9	57.3
Light manufactures	3.7	7.6	3.7
Automobiles	2.8	4.3	1.4
Electronics	3.8	4.4	0.6

Impact on output in Taiwan (China)

	<i>to 2001</i>	<i>to 2007</i>	<i>Difference 2001 - 2007</i>
Rice	-1.8	-2.9	-1.1
Feedgrains	-2.4	-3.7	-1.3
Vegetables & fruits	-1.3	-6.9	-5.7
Sugar	-9.3	-14.3	-5.5
Livestock & meat	-1.2	-2.1	-0.9
Other food	-3.1	-6.1	-3.1
Bev/tobacco	-29.9	-42.2	-17.5
Textiles	9.5	27.7	16.6
Apparel	-1.4	-7.4	-6.1
Light manufactures	9.5	12.7	2.9
Petrochemical	8.5	13.7	4.8
Automobiles	-5.6	-12.5	-7.3

Changes in trade volumes (2001-2007)

	<i>China</i>		<i>Taiwan</i>	
	<i>Exports</i>	<i>Imports</i>	<i>Exports</i>	<i>Imports</i>
Rice	6.1	-7.1	0.8	6.0
Vegetables/fruits	14.6	-6.3	7.8	85.0
Oilseeds	29.8	20.9	9.3	-3.8
Cotton	-51.8	7.7	-3.6	16.6
Livestock	15.5	-8.9	0.7	9.2
Beverages/tobacco	9.7	112.4	-3.4	27.8
Textiles	32.7	38.5	19.9	14.2
Apparel	105.8	30.9	-4.6	17.8
Light manufactures	5.9	6.8	4.5	6.6
Automobiles	27.7	24.0	13.1	20.6
Electronics	6.7	6.8	-2.3	-0.3

Welfare effects of WTO Accession (1997 US\$ Billion)

	2001	2001-2007	2007	% of GDP
China	26.7	6.0	32.7	1.8
North America	0.8	5.3	6.1	0.0
Western Europe	4.0	14.2	18.2	0.2
Japan	3.1	2.6	5.7	0.1
Taiwan, China	1.6	1.4	3.0	0.6
Other NICs	5.4	1.5	6.8	0.6
South East Asia	-0.5	-0.9	-1.4	-0.2
South Asia	-0.4	-4.6	-5.0	-0.5
Total	41.6	24.7	66.3	0.2

Decomposition of welfare changes due to WTO Accession after 2001 (1997 US\$ Billion)

	Tariff Cuts	Quotas	Export Subsidy	Auto Restr.	Service Lib.	2001- 2007
China	1.1	2.1	0.3	1.3	1.2	6.0
North America	2.4	2.7	0.0	0.0	0.2	5.3
Western Europe	5.7	8.3	0.0	0.0	0.3	14.2
Japan	2.3	0.3	0.0	0.0	0.0	2.6
Taiwan, China	0.8	0.3	0.0	0.0	0.3	1.4
Other NICs	1.5	0.0	-0.2	0.1	0.0	1.5
South East Asia	0.1	-1.0	0.0	0.0	0.0	-1.0
South Asia	-0.9	-3.8	0.0	0.0	0.0	-4.7
Total	13.8	7.1	0.0	1.5	2.2	24.7

Conclusions

- Real farm incomes may fall making farmers in remote areas in China worse off
- Skilled and unskilled workers employed in the manufacturing sector in China benefit
- Estimated 35 million people would leave their farm jobs as a result of accession if the government removes the 'hukou' system, compared to 6 million in the absence of reform

Conclusions

- An increase in education spending in China may have important structural and distributional effects:
 - Boosts output of sectors that are more intensive in skilled labor – autos, metals, electronics, equipment and machinery
 - Boosts wages of unskilled workers and lowers wages of skilled workers
 - Slows down migration from farm to off farm employment

Conclusions

- Large positive impact on trade (17% increase in trade volume after 2001) with most important impact on apparel
- China and Taiwan benefit the most from its own dramatic liberalization during the 1990s
- China is the biggest beneficiary, but substantial benefits to its trading partners
 - Losses to some countries that compete in third markets

Limitations of the Analysis

- No NTBs represented except MFA quotas
- Tariff aggregation hides much of the benefit from reform
- Have abstracted from impacts of Accession on investment flows