



Integrated Assessment of Trade Liberalization and Trade-Related Policies

A Country Study on the Cotton Sector in China



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NOTE

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EXECUTIVE SUMMARY

In China, the specific policy studied is that of import liberalization rather than export expansion. The study examines the impact of tariff-rate quotas (TRQs) on the production and import of selected agricultural products. The environmental, social and economic effects are largely imputed through changes in production and consumption structures. The methodology used is the JAPA model with partial equilibrium and econometric sub-models, which seek to examine the effects of some trade policy variables. This is the only *ex ante* study in this series, i.e. it forecasts the potential effects of the TRQs on Chinese exports and imports on the basis of current consumption patterns and current utilization of resources.

The study examines the impact of TRQ offers under the Compilation of the Legal Instruments on China's Accession to the World Trade Organization. As this is a theoretical projection, two assumptions have been made. First of all, it is assumed that the trade concessions given by China will have to be extended on a most favoured nation (MFN) basis to all the member countries of the WTO, subsequent to China joining the WTO. Second, it is assumed that the entire TRQs will be imported irrespective of whether imports are more or less competitive with domestic products. Subject to these assumptions, the following examples have been chosen for simulation by the JAPA model.

According to the Compilation of the Legal Instruments on China's Accession to the World Trade Organization the TRQs for year 2002 are:

Wheat 8.468 million metric tons
Corn 5.85 million metric tons
Cotton 818,500 metric tons.

Assuming that the entire TRQs are imported, this increase in imports will result in a decreased cultivation of some crops. Wheat, corn and cotton imports are likely to bring significant shifts in overall crop production structures. According to the optimal solution of the JAPA model, compared with the baseline projection, the total cultivated land area will decrease by 1.11 per cent, or about 92,624 hectares.

Reduced cultivation is expected to bring about positive effects on the environment because of the reduction in the application of chemical fertilizers and pesticides. The reduction of pesticide application was evaluated at 0.10 million RMB, and the reduction of chemical fertilizer application was evaluated at 1.11 million RMB. This did not include, however, the reduced application that may result from effects other than reduced cultivation, for example the decreased prices of agricultural products may encourage decreased fertilizer application per hectare.

The study also imputes negative economic and social effects to the decrease in cultivated land. If cultivated land were to be abandoned, it could be used for non-agricultural purposes, such as city extension, industry and building. The average shadow price of the cultivated land estimated by the partial equilibrium model is 155 RMB per hectare which

works out to a total value of 14.36 million RMB for the abandoned land. The study assumes that this is a social opportunity cost rather than an environmental cost. The higher rental value of urban land, which would accrue as an economic benefit is not included in these calculations. This is justified by the study on the grounds that it used a partial equilibrium model which focuses exclusively on the agricultural sector and does not examine other interlinkages with either urban expansion or related industries such as the textiles sector.

After China joins the WTO, both opportunity and challenge will confront the agricultural sector. While theoretically China could increase agricultural imports (TRQs) in the initial period, this may have economic, social and environmental effects. According to the study, the overall production of cotton will go down because of imports, however, it is likely that textile production and export will go up. This would thus result in increased export revenues, which has not been taken into account when calculating the economic benefits arising from trade liberalization. At the same time, it must also be recognized that textile production can be pollution intensive, and has high water consumption demands.

The study shows that in a cost-benefit analysis (CBA) framework, the negative economic and social effects will be higher than the positive effects. This perception is based on the assumption that China's imports of agricultural products are not likely to be balanced by Chinese exports of agricultural products, as product quality standards in international markets may be too high for China to meet.

As the most important problems identified by China were the negative economic effects of its accession to the WTO, the solutions also were economic in nature. An important priority for China is to improve the competitiveness of its cotton sector. For this it proposes to introduce "green box policies", improve its cotton breeding programme, encourage the formation of cooperatives, and various other measures.

Maintaining a balance between supply and demand, and avoiding fluctuations was also considered an important part of the proposed strategy. This balance includes regional balance and varietal balance. Suggestions include adjusting the scale and distribution of cotton production, promoting the production of cotton to order, improving the cotton wholesale market, and establishing an agricultural consulting system.

On environmental policies, the study strongly recommends conducting assessments, especially general equilibrium (GE) assessments. However, even if data for a comprehensive GE analysis may be difficult to obtain, it is necessary to examine some of the interlinkages with other related sectors, especially livestock and textiles, which would benefit respectively from reduced prices of grain feed and cotton. The study also recommends using integrated pest management techniques, bio-pesticides made from traditional Chinese herbs, banning the production, marketing and application of all highly toxic, high residue pesticides, levying an environmental pollution tax, strengthening the administration of genetically modified cotton production, and promoting the production of organic cotton. As this is an *ex ante* analysis it would be interesting to monitor the actual developments in these sectors as WTO accession commitments are implemented, to compare actual effects with *ex ante* assessments. Pilot implementation of some of these policies can also be carried out in the meantime.

ABBREVIATIONS AND ACRONYMS

AERI	Agricultural Economics Research Institute
AIA	Advanced Informed Agreement
ATC	Agreement on Textiles and Clothing
AMS	Aggregate Measure of Support
CAAS	Chinese Academy of Agricultural Science
CAPA	Chinese Agricultural Policy Analysis Model
CBA	cost-benefit analysis
CGE	Computable General Equilibrium Model
DPL	Delta and Pine Land Company
DTIE	Division of Technology, Industry and Economics
ETU	Economics and Trade Unit
GATT	General Agreement on Tariffs and Trade
GDP	gross domestic product
GMO	genetically modified organism
IFOAM	International Federation of Organic Agricultural Movements
IPM	Integrated Pest Management
JAPA	Jiangsu Agricultural Policy Analysis model
LA/AIDS	Linear Approximation/Almost Ideal Demand System
LMO	living modified organism
MFA	Multifibre Arrangement
MOFTEC	Ministry of Foreign Trade and Economic Cooperation
NGO	non-governmental organization
NTBs	non-tariff barriers
NTMs	non-tariff measures
PE	converted quantity
RMB	Chinese currency
PNTR	Permanent Normal Trade Relations
SEI-B	Stockholm Environment Institute–Boston
SEPA	State Environmental Protection Administration
SMC	Supply and Marketing Cooperatives
SOEs	State Owned Enterprises
SPS	Agreement on Sanitary and Phytosanitary Measures
TRQ	tariff-rate quota
UNEP	United Nations Environment Programme
URAA	Uruguay Round Agreement on Agriculture
WTO	World Trade Organization

TABLE OF CONTENTS

	<i>Page</i>
EXECUTIVE SUMMARY	iii
ABBREVIATIONS AND ACRONYMS	v
ACKNOWLEDGEMENTS	xi
FOREWORD	xv
 <i>Section</i>	
1. INTRODUCTION	1
1.1 China's cotton production	1
1.2 China's textile industry	5
1.3 Cotton and textiles production in Jiangsu province	7
2. IMPACT OF CHINA'S ACCESSION TO THE WTO	9
2.1 Impact of China's accession the WTO in general	9
2.2 Impact of China's accession to the WTO on agriculture	10
2.3 Impact of China's accession to the WTO on textiles	16
2.4 Impact of China's accession to the WTO on agricultural environment	16
3. BACKGROUND TO THE PROJECT	23
3.1 Relevance of the cotton sector to the national economy	23
3.2 Project objectives and outputs	24
3.3 Project approach and process	25
3.4 National institution, team members and UNEP	26
4. DEVELOPMENT OF IN-COUNTRY METHODOLOGY	29
4.1 Overview of methodology selection	29
4.2 Methodology	29
5. INTEGRATED ASSESSMENT OF TRADE LIBERALIZATION	41
5.1 Economic impacts	41

<i>Section</i>	<i>Page</i>
5.2 Social impacts	43
5.3 Environmental impacts.....	44
6. VALUATION OF TRADE LIBERALIZATION.....	45
6.1 Economic impacts	45
6.2 Social impacts	46
6.3 Environmental impacts.....	46
6.4 Net impacts	46
7. IMPLEMENTATION PLAN AND STRATEGY.....	49
7.1 Main impacts identified.....	49
7.2 Proposed policy recommendations to mitigate the negative and enhance the positive impacts.....	50
References	61

LIST OF TABLES

Table 1.1 Cotton output in main cotton producing countries	4
Table 1.2 Cotton prices and import, export in China	5
Table 1.3 Cotton production costs in main cotton producing countries	6
Table 1.4 Chinese textile production and export.....	7
Table 2.1 Tariff quotas of agricultural products.....	12

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