

1. China's Accession to the WTO: Impacts on China

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One of the great milestones for economic reform in China, and for the world trading system, was the accession of China to the World Trade Organization (WTO) in November 2001. China's accession will have an enormous impact on both China and the world trading system.¹

Other developing countries will feel the impact of China's WTO accession through four main channels:

- Expansion of markets in China for exports
- Increases in the supply of exports into others' markets
- Competition in third markets
- Expansion of investment in China and, potentially, outward foreign investment from China.

To understand how these linkages will play out requires a good understanding of how WTO accession will affect China itself and, particularly, of how policy might develop in the many areas of reform that go beyond the specific commitments in China's WTO accession package.

There are many perspectives on China's accession to the WTO. One view, focusing on legal rights and responsibilities, sees China's key challenges as to meet its legal commitments to implement particular policies and to ensure that its rights are maintained through WTO mechanisms such as the Dispute Settlement Mechanism. Another, purely economic, view is that accession involves a set of economic policy changes that will open China's economy and make it much more engaged in the global economy. The most compelling perspective is one that sees WTO accession as a component of the broader set of reforms that China has undertaken since 1978—as a set of policies that can contribute to development and poverty reduction.

WTO rules are important ingredients in formulating good policies for development, but they do not provide a complete recipe. Like most other laws, their intent is to reduce the adverse impacts of the actions of one individual or group on another, rather than to guide a country on the best way to achieve its goals. Many WTO agreements allow a great deal of choice within the range of legally permissible policy options. Within the framework of its WTO

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¹ Martin and Ianchovichina (2002).

commitments, China may choose to pursue its development goals either aggressively or quite tentatively.²

To understand the implications of China's accession to the WTO, we examine the nature of the policy changes associated with accession; the implications of these policy changes for the Chinese economy at large and for individual households; and the complementary policies needed to take advantage of the opportunities created by accession and to minimize the adjustment costs.

Policy reforms associated with accession

The five basic principles of the General Agreement on Tariffs and Trade (GATT) and the WTO provide a useful framework for analyzing the implications of China's accession. These principles are: (1) nondiscrimination (the Most-Favored-Nation [MFN] principle, under which the best market access given to any one member is extended to all other members); (2) market opening; (3) transparency and predictability; (4) undistorted trade; and (5) preferential treatment for developing countries.³

Nondiscrimination

The general principle of nondiscrimination requires WTO members to give equal treatment to competing suppliers, and not to discriminate between domestically produced and imported goods or services in their internal markets. In China's case, the application of this general principle has involved some additional commitments, including eliminating dual pricing systems, phasing out restrictions on trading, and introducing more uniform administrative arrangements and judicial review. These agreements are of crucial importance not just for the central authorities but also for the lower tiers of government, which are often involved in internal trade and regulation.

Market opening

The market-opening principle is reflected in commitments by China to abolish nontariff barriers, reduce tariffs, and open its service sectors; in commitments by countries importing from China to abolish the quotas on textiles and clothing that were originally imposed under the Multifiber Arrangement (MFA); and in commitments by the United States and other countries to impose MFN tariffs on China.

The cuts in import tariffs that China has offered are very substantial, and will result in a reduction in the weighted average tariff from 13.3 percent in 2001 to 6.8 percent at the at the

² As examples, tariffs may be set at any level below China's tariff bindings; the agreement on trade-related intellectual property rights (TRIPS) may be used in a way that stimulates the development of a knowledge-based and more productive economy, or simply in a way that results in transfers to industrial countries; similarly, WTO rules on contingent protection can be used in a way that is extremely damaging to open trade and economic development, or be used (or not used) in a way that is more consistent with economic efficiency and equity.

³ See Gertler (2002) for an outline of these principles.

end of the implementation period.⁴ These reductions are in fact small in relation to the reduction of 27 percentage points that China achieved between 1992 and 2001. China's commitments to liberalize trade in services are extremely large relative to those of almost all other countries, though they are more often subject to qualifications or reservations than those of other countries.

China's trading partners, for their part, have made an important "concession" in abolishing the quotas that were imposed under the MFA. The abolition of these quotas is likely to provide significant opportunities for China to increase its exports of textiles and clothing, given its strong comparative advantage in these goods, although the effects will be tempered if the importers exercise their right to impose special textile and clothing safeguards for a year at a time during a transition period up to 2007.

Another important "concession" by almost all existing members of the WTO is to refrain from invoking nonapplication provisions of the type that were widely invoked against Japan when it joined the GATT. Even though this concession does not involve much actual market opening, its result will be that China will receive MFN status in virtually all markets. Having this status will free China from onerous one-sided review procedures, such as the former annual review of China's MFN status in the United States, and it assures investors in China's export industries that foreign markets will be available to them on a continuing basis.

Transparency and predictability

The transparency and predictability of trade policy are enhanced both through general WTO policy rules, such as the need to publish trade rules and regulations, and through a number of specific commitments China has made, including provisions for uniform application of the trade regime and for independent judicial review, as well as for a mechanism whereby concerned parties can bring problems of local protectionism to the attention of the central government. Another important contributing factor is China's binding of its entire tariff schedule for goods, almost always at tariff levels below current applied rates, not only reduces tariffs and their variance, but also increases predictability by ruling out tariff increases in the future. Annual transitional reviews to be held for eight years following China's accession will provide additional information about China's regime and its reforms during that period. Also important for increasing transparency are China's commitments to phase out restrictions on trading rights for all products, except for a short list of commodities that may remain subject to state trading, and to allow entry of foreign, and frequently domestic, suppliers into distribution and wholesale services.

The emphasis on transparency, and the specific requirements to this effect, may help to avoid costly and acrimonious disputes of the kind that marred trade relations between Japan and (in particular) the United States during Japan's era of high export growth.

⁴ While the implementation period extends to 2010, almost all of the reduction will have been completed by 2005.

Undistorted trade

The WTO principle of undistorted trade involves general disciplines in areas such as subsidies and countervailing measures, antidumping, and safeguards. China has made more stringent commitments than those normally required, including one not to subsidize its agricultural exports, and, for industrial goods, disciplines on some forms of export subsidies generally allowed in developing countries.

The existing regime of antidumping and safeguard measures has troubling implications for China's access to export markets. The WTO rules against dumping are biased toward finding dumping even where no economically meaningful dumping exists.⁵ The situation is worse for China than for other WTO members, since 70 percent of China's exports are in the products that are most vulnerable to antidumping measures. Further, China will potentially remain vulnerable, for up to 15 years, to highly discriminatory provisions that are applied to nonmarket economies and dramatically increase the probability of dumping being found. When antidumping duties are applied under these provisions, they are generally much higher than the duties applied to market economies. For example, the average 40 percent duty applied by the United States against nonmarket economies was more than 10 times higher than in cases where the margin was calculated based on actual costs.

A particularly worrying feature of China's accession agreement is the Product-specific Transitional Safeguard Provisions. These provisions may be applied by any WTO member, and may then trigger actions against the diversion of Chinese exports to other markets.⁶ They are, in a sense, worse than the provisions on nonmarket economy treatment in that they introduce an entirely new form of protection, targeted specifically against China, are more readily triggered than regular safeguards, and are available to China's trading partners for up to 12 years from the date of China's accession.⁷ The trade diversion measures allowed under these provisions are particularly troubling, as they provide even less procedural protection than is available under regular safeguards.

Proposals to use the Product-specific Safeguards against China's exports of textiles and clothing have already surfaced in the United States, despite the continuing presence of quotas originally imposed under the Multifibre Arrangement. If the Product-specific Safeguards are invoked, and other countries do not resist the temptation to use the trade diversion measures, there is a risk of a domino effect: China's exports would be diverted to fewer and fewer markets, and China would increasingly be tempted to retaliate against what it would almost certainly see as unfair barriers against its exports. The result could be serious damage to both China and the trading system.

If these measures are used, China could either retaliate by, for instance, increasing its use of antidumping actions and contesting the safeguard actions through the WTO's dispute

⁵ Messerlin (2002).

⁶ Panitchpakdi and Clifford (2002).

⁷ Anderson and Lau (2001).

settlement mechanism, or it could mount a concerted campaign for reform of the rules in the Doha negotiations, particularly in the area of antidumping.⁸

Clearly, China will need to contest unjustified actions and seek settlement of disputes. But a retaliation that involves launching antidumping actions is likely to be extremely costly to its economy, both by reversing the liberalization process, and by increasing the uncertainty about trade policy. Even though retaliation is likely to be politically attractive (as confirmed by the recent upsurge in antidumping actions in China—and the dramatic upsurge in these actions by developing countries such as Argentina, South Africa, India, and Mexico), the economic costs to China in particular suggest that it should be avoided as much as possible.

If China chooses instead to lead a push for reform of the antidumping and safeguard rules to reduce the abuses of these protectionist measures, it could greatly improve the performance of its own economy in the short run, and the global trading system in the longer run. Messerlin (2002) suggests two courses of action. First, as to its treatment as a nonmarket economy, China could press for new rules on the automatic granting of market economy status in a particular commodity, as long as a country meets basic conditions such as low rates of protection, an absence of serious nontariff barriers, and an absence of state monopoly in the distribution of that commodity. Second, on antidumping measures more generally, China could put forward, or strongly support, proposals to narrow the use of antidumping measures and to reduce their severity. China might also seek similar relief on the Product-specific Safeguards. The abuse of antidumping policies by the major trading countries and by a growing number of developing countries is a problem for most of the other economies of East Asia, and China could surely strengthen the coalitions formed at the WTO to push for stronger rules against this abuse.

Preferential treatment for developing countries

Preferential treatment was a particularly vexing issue throughout the negotiations. While China has a much lower per capita income than many economies that the WTO classifies as developing, its size and growth performance made existing members reluctant to accord it full developing-country treatment. In many areas of the agreement, China is likely to have full access to the developing country provisions, although in particular cases it faces tighter restrictions than other developing countries.⁹ At the same time, China has obtained specific transitional arrangements in areas such as the phasing out of quotas and licenses, and phased entry of foreign enterprises, that are not generally available to developing country members. Special treatment in the form of preferential access to industrial country markets is not important for China, and this gives China a strong interest in reducing the trade barriers in industrial countries in the only way China is able—through multilateral trade reform that lowers protection in the industrial countries, particularly on labor-intensive products such as textiles and clothing, and footwear in which China has a strong comparative advantage.

⁸ Messerlin (2002).

⁹ For example in agriculture, where it had to accept a limit of 8.5 percent on de minimis domestic support, as against the usual 10 percent limit for developing countries.

Intellectual property rights

The Agreement on Trade-Related Intellectual Property Rights (TRIPS), which is an integral part of the WTO, involves a number of GATT principles such as nondiscrimination and seeks to achieve a balance between offering incentives for innovation and allowing broad access to information. An intellectual property regime appropriate to a developed country may be much too rigorous for a developing country; such a regime may inhibit growth by limiting innovation and diffusion and result in excessive transfers to foreign producers of intellectual property. But all countries require regulations to ensure that markets remain competitive without excessively reducing the incentive to innovate. The TRIPS agreement is generally seen as providing the flexibility needed to design such a regime, but implementation will not be easy.

For China, the TRIPS agreement is a key aspect of WTO accession. China has strengthened its intellectual property rights regime, recognizing the need to stimulate innovation domestically and access foreign technology, and responding to pressure from its trading partners. Since 1990, China has updated its laws on copyrights, trademarks, patents, and trade secrets and adopted protection for new plant varieties and integrated circuits. These changes are particularly important for China's East Asian neighbors, many of whom are engaged in intellectual property-intensive activities in China.

China's intellectual property regime (IPR) is broadly appropriate to China's situation.¹⁰ In particular, Maskus believes that China's policy of public procurement of pharmaceuticals at negotiated prices is appropriate for providing public health services. He also concludes that, with current reforms, the regime will be fully consistent with the TRIPS requirements in the near term.

However, Maskus raises some important issues about TRIPS policies and their implementation in China. One concerns proposals to extend patent protection to computer software, giving a level of protection currently provided only in the United States, Japan, and Australia that is perhaps excessive for a young industry such as China's. Serious problems in enforcing trademarks, patents, and trade secrets in particular are seen as inhibiting the transfer of technology in China and the development of innovative domestic businesses. For China, with its current low allocation of resources to research and development, laws protecting domestic innovations are of limited benefit. Key issues for the future include the enhancement of pricing regulations on pharmaceuticals as patent protection becomes stronger and the development of a broader competition policy regime to deal with abuses of IPRs such as monopoly pricing and restrictive licensing arrangements.

¹⁰ Maskus (2002). His assessment of China's intellectual property regime considers the provisions for patents, trademarks, trade secrets, and copyrights. It compares China's rules on intellectual property rights with international benchmarks for middle-income developing countries. World Bank (2001), with data from interviews with market participants.

Sectoral impacts of accession

To evaluate the impacts of changes in trade policy, we first assess the policy stance prior to accession and then trace the implications of the policy measures that are being introduced. We examine the evidence on agriculture, manufacturing, and services in turn.

Agriculture

Many commentators have raised concerns about the impact of WTO accession on China's agriculture and the many poor people engaged in this sector. Much of the concern has arisen from comparisons of China's statutory tariffs on agriculture in the 1990s with the rates agreed on in the accession process.¹¹ But other authors have pointed out that the statutory tariff rates bore little relationship to the actual protection (or taxation) that China's agricultural sector experienced.¹²

The evidence on the actual rates of protection applying to agriculture is still extremely limited and often contradictory. Agricultural trade in China has been influenced by a bewildering array of policies on imports and exports, including state trading, designated trading, quotas, licenses, tariffs, and tariff-rate quotas. Many studies have tried to deal with this problem by summarizing the protective impact of agricultural trade policies in terms of the price distortions created by these measures. The more restrictive the trade measure, in general, the larger will be the distortion, that is, the gap between the domestic price and the international price.

Several studies have estimated the size of the agricultural distortions using the available series on domestic and international prices. Unfortunately, the results obtained have varied widely.¹³ And while Carter (2001) and Martin (2001) feel that WTO accession will require relatively little liberalization in China, Schmidhuber (2001) and many others believe that dramatic changes will be needed. Clearly, when top-flight scholars reach such different conclusions from the same facts, a new approach is required, especially since the policy consequences are so large.

For the present project, Huang and Rozelle (2002) adopted a new approach by basing their analysis of policy impacts on detailed interviews with participants in China's agricultural markets, rather than on available price series. Their approach provides a much clearer indication of the implications of agricultural trade policies for product prices, and of the real-world impacts of policies. They show, for instance, that a major source of the discrepancies in earlier research is differences in quality between domestic products and those traded internationally. They also identify features of the trade regime, such as export subsidies on maize and corn, that have important impacts on product markets.

¹¹ For example, Schmidhuber (2001).

¹² For example, Johnson (2000) and Lin (2000).

¹³ Huang, Chen, and Rozelle (1999,) for example, estimated the protection applying to rice, wheat, and maize in the mid 1990s at 4, 20, and 25 percent, respectively. By contrast, Tuan and Cheng (1999) estimated these protection rates to be -29, 62, and 15 percent, respectively. Carter (2001, p. 80) relied on producer price data and found generally negative price distortions.

What, then, do China's accession commitments imply for agricultural markets? For those products protected by ad valorem tariffs, the implications are straightforward. A reduction in the tariff indicates directly the reduction in the domestic price of the good, and this change, together with information on the slope of the import demand curve, can be used to estimate the cost of protection. For those products that are protected by both a tariff and an export subsidy, it may be necessary to consider changes in both variables. For products that are being protected, or are to be protected, using tariff-rate quotas, the analysis becomes much more complex; for them, the impact of a tariff reduction depends greatly on whether it is the within-quota or the out-of-quota tariff that determines the price of the good. And where the quota will be filled in some years but not in others, the average rate of protection may be a combination of the two tariff rates.

Table 1.1 shows some key assessments of the implications of the level of protection and the changes associated with WTO accession. The statutory tariff rates for 1998 used by Schmidhuber and others are given in the first column; Huang and Rozelle's estimates of protection in 2001 are given in the second. The third column shows anticipated average rates of protection after accession, taking into account the reforms required by accession, and likely market outcomes.

Table 1.1: Some Measures of Import Protection in China's Agriculture (%)

	<i>1998 Statutory tariffs</i>	<i>2001 Actual protection</i>	<i>Postaccession protection</i>
Rice	127	-3.3	-3.3
Wheat	133	12.0	12.0
Maize	130	32.0	32.0
Vegetables & fruits	15	-4.0	-4.0
Oilseeds	132	20.0	3.0
Sugar	30	40.0	20.0
Cotton	3	17.0	20.0
Livestock & meat	35	-15.0	-15.0
Dairy	46	30.0	11.0

Note: Average statutory rates taken from Schmidhuber (2001) and www.chinavista.com.

For rice, wheat, and maize, the adjustments required by WTO accession will be much smaller than would be suggested by analyses based on the statutory rates of protection. For rice, Huang and Rozelle (2002) estimate the average rate of protection was slightly negative, implying that China's system of state trading for rice operated to tax rice exports slightly in 2001. After accession, the rate of protection is expected to remain the same, since accession to WTO does not require reductions in negative protection that is administered by state trading or an export tax. For wheat, protection averaged an estimated 12 percent—much lower than would be suggested by simple price comparisons. After accession this rate of protection need not be greatly reduced, on average, since it seems likely that wheat imports will exceed the tariff-rate quota reasonably often,¹⁴ allowing the imposition of a tariff of up to

¹⁴ Martin (2001).

65 percent. For maize, the rate of protection was higher, at 32 percent, because of an export subsidy. After accession, the level of import protection need not change greatly on average, since there is a significant probability that the tariff-rate quota will bind by the end of the decade.¹⁵ But the maize export subsidy must be abolished, implying a potentially substantial reduction in the price support given to maize.

Oilseeds present a different case; here, the principal form of protection has been a tariff, and the tariff is being reduced substantially. For sugar, the protection provided must be halved to meet China's commitments to a bound tariff of 20 percent. On cotton, import protection will not change greatly, but export subsidies such as the 10 percent export subsidy observed in 2001 are ruled out in the future. For livestock and meat, protection could remain negative, as a consequence of export restrictions to markets such as Hong Kong, China. Protection to dairy products can be expected to decline to meet China's tariff-binding commitments.

The reductions in protection shown in Table 0.1 (See Overview) are just one set of possible outcomes in a situation where rates of agricultural protection can vary substantially, particularly if import levels exceed the tariff-rate quotas. However, they show that China's policy makers will still be able to exercise significant discretion after accession.

Removing the negative protection from labor-intensive products would be consistent with WTO rules and is likely to be particularly beneficial for employment in rural areas, as well as for economic efficiency. By taking part in the WTO agricultural negotiations being conducted under the Doha Development Agenda, China could potentially reinforce these benefits by opening large, and currently highly protected, markets for its labor-intensive agricultural exports. Unfortunately, the high rates of agricultural protection that arose when GATT rules on agriculture were extremely weak mean that China faces barriers to its agricultural exports that are four times as high as those it faces on its other merchandise exports.¹⁶

China's accession to the WTO with relatively low tariff bindings on agricultural products prevents it from following the path of ever-increasing agricultural protection that other high-growth East Asian economies have followed.¹⁷ Even China's highest tariff bindings, of 65 percent, provide only one-tenth of the protection currently observed for wheat and rice in Japan.¹⁸ Given China's size, this is extremely important for world agricultural markets; had China gone down the road of Japan, the world market for rice, and other agricultural commodities, would be permanently depressed.

China's commitment to a low-protection agricultural regime will greatly reduce the costs of achieving successful economic development and will force future policymakers to focus on policies such as improvements in rural education and reductions in barriers to labor mobility that will deal effectively with the problems of rural poverty in China—rather than use commodity price distortions, which provide at best a short-term palliative measure.

¹⁵ Martin (2001).

¹⁶ Martin (2001).

¹⁷ Anderson and Hayami (1986).

¹⁸ Anderson and Hayami (2002a) p. 197.

China's agricultural trade commitments throw into stark contrast the costly and inefficient regimes in neighboring economies (OECD 2002a) and increase the pressure for their reform. Looking ahead, China is unlikely to be satisfied if traders such as Japan and the Republic of Korea are allowed to maintain agricultural protection rates much higher than its own. The increasing openness of China's market for agricultural products will create much bigger markets for land-intensive products such as rice from some East Asian countries, and for specialty, high-quality products from almost all countries. But strong policy efforts by China and other agricultural exporters in the current WTO negotiations will be required to expand market access in currently highly protected agricultural markets.

China will clearly have a strong interest in expanding its access to export markets for its labor-intensive agricultural products. Particularly for perishable products such as fruits and vegetables, many of the logical markets are in East Asia. It is vitally important that China's trading partners provide opportunities for China to expand its exports of these products, which are so important for creating employment for relatively poor rural people. Analysis by Yu and Frandsen (2002) suggests that Organisation for Economic Co-operation and Development (OECD) agricultural liberalization would benefit China and improve its agricultural trade balance. China's rights as a WTO member at least give it the opportunity to insist that adequate procedures be followed, and to limit the duration of measures such as safeguards. Resorting to the use of standards by China's trading partners as a means of restricting access would be particularly unfortunate because of the nontransparency of such measures and their divisive nature.

If China elects to remove its negative protection from key commodities such as rice, vegetables, and meats, the returns to unskilled rural labor and to farmland would rise slightly, so that the overall impact of the accession on rural wages would be -0.5 percent instead of -0.7 percent. If, on the other hand, the in-quota tariff rates were uniformly applied, then the returns to farm factors would deteriorate by about the same amount.

Industrial products

Most of the needed adjustment in industrial tariffs has already occurred, and what remains involves an expansion in both imports and exports and a probably painful restructuring of some key industries.

China substantially reduced its tariffs on manufactures during the 1990s: Weighted average tariffs on manufactures fell from 46.5 percent in 1992 to 25 percent in 1995 and to around 13 percent by the time of accession in 2001. With full implementation of China's accession commitments, these tariffs will fall to just over 6 percent. The 6 percent reduction in average tariffs that remains to be implemented is important, but small relative to the 33 percent reduction since 1992 or the 12 percent reduction since 1995.¹⁹

¹⁹ Ianchovichina and Martin (2002).

Table 1.2: Protection to industrial sectors in China (%)

	<i>1995</i>	<i>2001</i>	<i>Postaccession</i>
Processed food	20.1	26.2	9.9
Beverages & tobacco	137.2	43.2	15.6
Extractive industries	3.4	1.0	0.6
Textiles	56.0	21.6	8.9
Apparel	76.1	23.7	14.9
Light manufactures	32.3	12.3	8.4
Petrochemicals	20.2	12.8	7.1
Metals	17.4	8.9	5.7
Automobiles	123.1	28.9	13.8
Electronics	24.4	10.3	2.3
Other manufactures	22.0	12.9	6.6
Total Manufactures	25.3	13.5	6.9

The largest reductions in industrial tariffs are now required in beverages and tobacco (a 28percent reduction from 2001 levels), and in automobiles (a 15 percent reduction from 2001 levels) (Table 1.2). While large, these reductions are much smaller than those already undertaken since 1995. The reduction in protection to the automobile sector is particularly important given the high profile of this industry and its linkages throughout the economy.

Other industries where substantial reductions in tariffs will be needed include textiles, clothing, electronics, and light manufactures. In many cases, these are relatively labor-intensive industries in which China has a comparative advantage, and where liberalization will help maintain efficiency and competitiveness.

The new tariff concessions in manufacturing will provide enormous opportunities for expanding trade in both final goods and production inputs, between China and its regional neighbors. China's imports will grow because of the reductions in protection, and exports will expand because of induced falls in production costs in China.

China's industry will face substantial adjustment pressures in key products such as automobiles, beverages, and tobacco, where external protection is being substantially reduced. Restructuring of scale-intensive industries such as the motor vehicle industry will be essential and can generate substantial productivity gains.

Ianchovichina and Martin (2002) estimate that China's imports of merchandise will rise by 17 percent on average as a result of the WTO-induced tariff reductions after 2001, with particularly large increases in products such as beverages and tobacco (112 percent). Much of the benefit is likely to accrue to China's neighbors in East Asia.

Motor vehicles

In the absence of reform and restructuring, China's output of motor vehicles would be likely to drop sharply following accession, notwithstanding strong increases in domestic demand and the shift in China's comparative advantage to more capital- and skill-intensive products

such as motor vehicles.²⁰ China's auto industry has been shaped by protective policies that have encouraged inefficient production and allowed for market segmentation; most plants are operating well below global standards for efficient production. Unless these problems can be overcome, the fall in protection—along with increased competition for labor from expanding sectors such as textiles and clothing—will force widespread plant closures.

Restructuring in the motor vehicle industry to achieve scale economies in final assembly could reduce production costs by about 20 percent.²¹ This would more than reverse the negative impact on output of the reduction in protection from 1997 levels, and allow the industry to expand dramatically as China's growth and shifting comparative advantage shift resources into sectors such as motor vehicles. If the industry is successfully restructured, exports of finished motor vehicles would increase rapidly—resulting in an increase in total exports of vehicles and parts of more than US\$4 billion a year. Increases in the efficiency of the final assembly industry relative to the production of intermediate parts are likely to increase the demand for imported parts substantially, with their share of total parts rising from 39 percent to 52 percent.

Clearly, profound adjustments are in store throughout the auto industry. Considerable painful restructuring, such as the closure of inefficient plants in many cities, will be required. However, there seems to be no alternative if China is to move to an efficient and internationally competitive motor vehicle sector.

Policy concerns

What are the likely effects of the large reductions in the barriers facing China's exports of textiles and clothing in Europe, the United States, Canada, and Norway? Since these barriers are implemented through export quotas that require an exporter to purchase an export quota—or to forgo the opportunity to sell quotas it has been allocated by the government—they impose a cost on exports that is analogous to an export tax. Based on detailed information on quota prices, this tax is estimated to be around 15 percent for clothing and 10 percent for textiles.²² For particular products, the export tax equivalent of these measures is much higher.

The analysis by Ianchovichina and Martin (2002) focuses largely on tariffs (given the great uncertainty about the protective impacts of nontariff barriers such as designated trading, quotas, and licenses in China, and their limited remaining coverage²³), though it also considers the export quotas on textiles and clothing. The omission of the effects of removing nontariff barriers means that the results give something of a lower-bound estimate of the benefits of the liberalization associated with accession, and downplay some important actual and potential elements of trade policy.

²⁰ Francois (2002).

²¹ Francois (2002).

²² See www.chinaquota.com.

²³ The frequency of import licenses, in particular, has fallen from around two-thirds of tariff lines in the late 1980s to less than one-twentieth in 2001. Lardy (2001).

A key omission of the analysis is the possibility of antidumping and safeguard measures being applied against China. Another is the increasing use of measures of this type by China. The introduction of the Product-specific Safeguards against China is particularly important in this respect since no such measure targeted specifically at China existed before China's accession. The risk that China will increase its use of antidumping and safeguard measures beyond the currently high levels is also of concern for development policy. Such an action would be a triumph of a rules-focused approach to WTO implementation—"it is legal therefore, we should do it!"—over the sharp focus on development that has characterized China's trade reform agenda since the beginning of the reform era.

Services

Trade in services was a key area in China's WTO accession negotiations, and China's commitments represent perhaps the most thoroughgoing liberalization of services trade ever undertaken in the GATT.²⁴ Its range of offers is extremely broad, although some commitments involve restrictions on ownership, business scope, or region. Critical sectors such as telecommunications, logistics, and finance are going to face renewed competition and are likely to see a burst of innovation and productivity growth as they are restructured. Many developing countries, such as Thailand, that have experience in dealing with these problems in the environment of a middle-income country, are likely to find substantial market opportunities.

An important feature of China's commitments is that they focus on market access and do not discriminate between domestic and foreign suppliers. However, China's commitments are carefully crafted: In cross-border trade and in services consumed abroad, the number of sectors with guaranteed unrestricted access is smaller than in most other countries, and in establishment trade it is essentially zero.

Restrictions on service activities

Restrictions on the form of business establishments have a long history in China, and have often been justified as a means to acquire technology or obtain a share of monopoly rents. Frequently, restrictions apply to the form of establishment, such as requirements for joint ventures, business scope, and geographic scope. As Mattoo (2002) points out, rules requiring businesses to form joint ventures may in fact inhibit the transfer of technology. A more thoroughgoing approach to the problem of monopoly rents would ensure that competition between firms, whether domestic or foreign, would eliminate these rents.

Many restrictions on the geographic scope of service suppliers, such as restrictions on the cities that can be served by insurance companies, date from an era when it was believed that experimentation with market-oriented approaches needed to be isolated because of the inconsistencies between, for instance, planned and market prices. There seems to be much less need for such policies now that the operation of market economies is so much better understood in China. Restrictions such as those in the WTO agreement that confine foreign ventures to five cities for five years, as in the case of insurance, might encourage

²⁴ Mattoo (2002).

agglomeration of these activities in the favored cities, which will not be reversed when the restrictions are subsequently lifted. This may reduce the opportunities for other parts of China, such as interior cities with a potential comparative advantage in these activities, to get started in these activities.

There appear to be good developmental reasons for China to phase out its geographical restrictions more quickly than required by the WTO commitments, given the risks of exacerbating the already substantial inequalities between coastal and interior provinces. China's commitments do not prevent the authorities from moving ahead faster than required, as they have frequently done in the past.

Regulations on services may have a number of goals, including making competition work, improving the availability of information to consumers, and ensuring universal service. Making competition work is particularly important in network industries such as telecommunications, where dominant incumbent firms frequently do not find it in their interests to allow new firms to interconnect to their networks. Improving the availability of information is particularly important in financial services, where lenders frequently do not have enough information on the prospects and repayment capacity of borrowers. Developing efficient provisions on universal service is important for ensuring that all parts of China have access to telecommunications services.

Logistics

China's WTO commitments on logistics involve a range of General Agreement on Trade in Services (GATS) service sectors, including packaging and courier services, maritime and rail transport, freight forwarding, and storage and warehousing services. Logistics costs are disproportionately high in China, and service quality lower than desirable, in part as an enduring legacy of the planned economy.²⁵ Logistics account for 30-40 percent of the wholesale costs of manufactured goods, as against 5-20 percent in the United States. High logistics costs are a particularly important problem for people in the poorer parts of China, whose ability to trade, and consequently their real incomes, are significantly reduced by these excessive costs. China has committed to increase competition in a number of key areas, including road transport, rail transport, warehousing, and freight forwarding. The breadth of these commitments also provides a much stronger basis for development of integrated third-party²⁶ logistical firms, able to reduce the costs and increase the quality of logistical services in China.

China has made substantial progress toward meeting its commitments on logistics services. Findlay and Luo (2002) believe that the costs of a wide range of goods and services might be reduced by about 10 percent from current levels—a huge saving that would raise incomes substantially in China, increase opportunities for exports to China, and strengthen China's competitiveness in export markets.

Achieving the full potential of logistics in China will require not just freer trade but also regulatory reforms—to remove discrimination against particular types of enterprises, to

²⁵ Findlay and Luo (2002).

²⁶ Service suppliers that are independent of both the sender and the recipient of the goods.

separate local administrations from enterprises, and to eliminate local protectionism. In addition, substantial investments in infrastructure will be needed to improve the timeliness, and reduce the cost, of providing logistical services.

Telecommunications

China's commitments in telecommunications take on particular importance given that China is expected to be the largest market for telecommunications in the world by 2010.²⁷ These commitments allow foreign entry to a wide range of activities currently closed to foreign investment. Further, this entry takes place in a sector that was monopolized by China Telecom until 1994 and is currently dominated by a small number of state-owned firms.

In basic telecommunications, China has committed to the disciplines of the WTO reference paper on the regulatory framework for telecommunications (WTO 1996). These disciplines aim to ensure a competitive environment that allows interconnection between systems under reasonable and nondiscriminatory conditions and that allows for universal service provisions. They also require the existence of a regulator independent of the telecom provider and set criteria for licensing of entry and allocation of scarce commodities such as the mobile telephone spectrum.

In the context of a basic telecommunications system governed by the WTO regulatory framework, China's other GATS commitments cover value-added services such as voicemail and online information services; mobile voice and data services; and domestic and international services such as private leased circuit services. Most of these services are initially subject to a combination of ownership restrictions and geographical restrictions within China. While the geographic restrictions will be phased out over several years, China has not committed to allowing more than 49 percent foreign ownership in important areas such as mobile telephone service. Allowing higher levels of foreign ownership would, of course, be consistent with China's GATS obligations.

To allow the telecommunications sector to make its maximum contribution to China's development will require further reforms of the regulatory framework. Key issues here will include ensuring the independence of the regulator, ensuring that interconnection works adequately and making pricing regulations more flexible.

Impacts on the economy

The reforms undertaken by China as a consequence of accession are broad-ranging, and their economywide interactions extensive, so it is important to evaluate them on an economywide basis. They need to be seen in the context of the sharp changes that are already underway in China's industrial structure, output, and trade patterns toward more capital- and skill-intensive goods, in response to changes in demand for China's exports, high rates of investment, and rapid growth in educational levels.

²⁷ Pangestu and Mrongowius (2002).

Ianchovichina and Martin (2002) analyze the impacts of liberalization associated with WTO accession in agriculture, manufactures, and services.²⁸ They divide the impacts of accession into two components: those associated with the liberalization undertaken between 1995 and 2001 in preparation for accession, and those stemming from the liberalization to be undertaken after 2001 to meet China's accession commitments.²⁹

Table 1.3: Impacts of the reduction in protection required by WTO accession from 2001 tariff levels

	<i>Output</i> %	<i>Employment</i> %	<i>Exports</i> %	<i>Imports</i> %	<i>Trade balance</i> US\$ mln.
Rice	-2.1	-2.3	6.1	-7.1	64
Wheat	-2.0	-2.3	18.9	-10.1	174
Feedgrains	-2.3	-2.6	-77.8	-2.4	-596
Vegetables and fruits	-3.4	-3.7	14.6	-6.3	214
Oilseeds	-7.9	-8.4	29.8	20.9	-789
Sugar	-6.5	-7.4	13.9	24.1	-73
Plant based fibers	15.8	16.4	-51.8	7.7	-189
Livestock & meat	1.3	1.1	15.5	-8.9	837
Dairy	-2.0	-2.4	13.5	23.8	-143
Other food	-5.9	-6.4	11.4	62.6	-3460
Beverages & tobacco	-33.0	-33.1	9.7	112.4	-14222
Extractive industries	-1.0	-1.3	7.5	-4.4	2088
Textiles	15.6	15.5	32.7	38.5	-10366
Apparel	57.3	56.1	105.8	30.9	49690
Light manufacturing	3.7	3.7	5.9	6.8	1786
Petrochemical industry	-2.3	-2.3	3.1	11.8	-8810
Metals	-2.1	-2.1	3.7	6.8	-1893
Autos	1.4	-2.2	27.7	24.0	516
Electronics	0.6	0.4	6.7	6.8	453
Other manufactures	-2.1	-2.2	4.1	18.9	-11291
Total	1.0	0	16.8	17.3	717

²⁸ The estimated liberalization of services is very crudely approximated by halving the barriers to trade in these activities estimated by Francois (2002). They also analyze the opportunities that arise from the elimination of the quotas against China's (and other countries') exports of textiles and clothing. Their analysis takes into account China's important export-processing arrangements and builds on the labor market study undertaken by Sicular and Zhao, by Shi Shizheng (2002) on labor markets, and on Francois's analysis of automobile industry restructuring. The resulting changes in the specification of their model greatly increase the realism of their analysis and have important implications for their results.

²⁹ The choice of 1995 as a starting period is somewhat arbitrary, given that China reformed its trade regime throughout the 1990s, but 1995 was an important turning point, when China had to forgo its hopes of resuming its seat in the GATT and apply as a newcomer to the World Trade Organization, under a process much more focused on the commercial implications of the accession package.

Exports

The liberalization associated with WTO accession will speed the growth in China's trade relative to output. The total volume of exports is projected to rise by 17 percent as a consequence of the liberalization after 2001 (Table 1.3).

The fastest-growing exports are of clothing, which are projected to double after 2001 in response to the abolition of the export quotas on clothing. Exports of most agricultural products will also rise, reflecting the decline in input costs to agriculture and persistent difficulties of workers' out-migration from agriculture. Exports of plant-based fibers (predominantly cotton) are projected to fall, reflecting increased demand for cotton in the export production of textiles and clothing. Feedgrain exports will also fall, because of the abolition of the export subsidy on exports of maize. Exports of automobiles will rise substantially, because auto production becomes more efficient as it exploits economies of scale and becomes more exposed to international competition

None of these projected increases in exports takes into account the possible benefits to China of being able to expand its market access through participation in WTO market accession negotiations, such as those that are currently under way as part of the Doha Development Agenda. The expansion in textile and clothing exports is, in fact, a delayed benefit from the Uruguay Round, previously denied to China as a nonmember of the WTO.

Imports

China's imports are projected to rise in a range of sectors in which there are substantial reductions in trade barriers—including beverages and tobacco, processed food, textiles, clothing, oilseeds, dairy products, and sugar. Imports of beverages and tobacco will rise the most because of the sharp reductions in tariffs on these commodities. Imports of services are also projected to rise substantially, because trade liberalization in services is seen as reducing import barriers.

Employment

The projected movements of labor between sectors are generally quite small relative to the changes in trade patterns. The biggest change in employment following accession is likely to come in clothing, with a rise of more than 50 percent after 2001. Employment in the textile sector and in plant fibers used in textile production will also rise to meet the demand from the clothing sector. Trade reform will lead to small reductions in employment in most agricultural sectors, and in manufacturing sectors such as petrochemicals, metals, and automobiles.

Welfare gains

Trade liberalization is a source of substantial overall welfare gains for China. The liberalization undertaken between 1995 and 2001 is estimated to yield a continuing gain of

US\$35 billion a year. The smaller reduction in protection between 2001 and the end of the implementation period will generate a smaller gain of US\$10 billion a year.³⁰

As to the distribution of the projected gains, wages of skilled and unskilled urban workers rise modestly, while wages for unskilled farm workers decline by 0.7 percent in real terms. We examine the distribution of gains further in the following section.

Effects at the household level

The simplest approach to capturing the effects of WTO accession at the household level requires an assessment of changes in the prices consumers pay; changes in the prices that owners of labor, capital, and other factors receive for their resources; and effects on the government's ability to provide transfers or public goods. In addition, it is useful to be able to assess the ability of households to adjust to the changes resulting from accession, perhaps by changing their activities.

Effects on rural and urban households

Given that ongoing work on trade and poverty has found that impacts felt through factor markets are consistently more important than impacts felt through consumer prices, it is important to examine the impacts of trade liberalization on factor markets. This is particularly the case in China, with its large income differences between urban and rural workers, and explicit policy barriers to the movement of labor between urban and rural sectors.

China's labor markets are adversely affected by a range of regulations that restrict the movement of workers from rural to urban areas. These include the *hukou* system of residence permits, which regulates movement between urban and rural employment. Another inhibiting feature is the restrictions on the sale of farmland usage rights; these rights have the effect that farm families moving permanently out of agriculture may have to relinquish their land rights without compensation.

The earnings of rural and urban households differ substantially, even for households with labor of the same skill level.³¹ Substantial barriers exist between urban and rural labor markets, particularly for poorer households, which depress income levels and make it more difficult for workers to respond to changes in economic opportunities. Even so, the barriers are not absolute: For labor supplied to nonagricultural activities by rural households, elasticities of supply with respect to wage rate differentials are in the order of two for unskilled workers, and closer to three for skilled workers.³²

³⁰ These projections of export and income growth are much lower-bound estimates, because they ignore the benefits from abolition of nontariff barriers, because they involve serious aggregation biases, and because models of this type appear to understate greatly the implications of major trade liberalizations. Kehoe (2002).

³¹ Sicular and Zhao (2002).

³² Sicular and Zhao (2002).

Shi Xinzheng (2002) examines the substantial differences between the earnings of urban and rural households and the extent to which these differences are caused by the formal barriers between China's urban and rural labor markets. Only between 30 and 40 percent of the total difference between rural and urban wage rates can be explained by the *hukou* policy. However, this policy component of the gap, which is a fundamentally important building block for assessments of the implications of liberalization is difficult to estimate precisely.

A key political concern throughout the implementation period is likely to be the impacts on the formerly favored workers in state-owned enterprises. These enterprises are experiencing greater competition from imports as a result of the abolition of barriers that formerly discouraged competition from foreign firms in the domestic market.

Effects on poverty

From a poverty perspective, it seems likely that the central issues of concern will be in rural areas. Poverty is most prevalent in the rural areas of China, and rural workers face barriers in moving into the sectors that are likely to expand as a result of China's ongoing growth and liberalization. Two studies evaluate the impacts of China's trade liberalization on poverty, and both find that the rural sector is more vulnerable than the urban to this reform.

Chen and Ravallion (Chapter 8 in this volume) consider the impact of WTO accession on income distribution and poverty.³³ They find a sharp contrast between the experience of urban and rural households. Most urban households, and particularly those who are relatively poor, gain from WTO accession. This is not the case for rural households, the poorest of which experience noticeable reductions in their living standards. This reflects a combination of falling rural wages and increases in the prices of goods consumed by these households.

Fan, Hertel, and Wang also provide important insights into the impact of trade reform on poverty.³⁴ Because of limitations on the availability of household data, they focus on Liaoning, Sichuan, and Guandong, three relatively diverse provinces. Their scenario for agricultural tariffs is similar to that in the Ianchovichina and Martin study, but focuses on an agricultural policy determined by the tariff-rate quotas. In aggregate, their conclusions are much more optimistic than those of Chen and Ravallion, showing virtually all households benefiting from the reform. However, their results suggest that inequality worsens following accession: Urban households benefit substantially more than rural households, and rural

³³ Their study draws on the simulation model results provided by Ianchovichina and Martin (2002) and uses a sample of 84,000 households—17,000 urban and 67,000 rural—from National Bureau of Statistics surveys. The price impacts from the Global Trade Analysis Project (GTAP) analysis are applied to the households' initial income and expenditure shares, taking into account the impacts these price changes on the prices households must pay for their consumption goods and purchases of inputs, and the prices they receive for their sales of goods and of labor and other factors. The loss of government revenue from falling tariffs is restored very simply in the model experiment by increasing the price of all consumption goods through a consumption tax used to maintain government revenues. This approach to measuring the impact likely overstates the extent to which tax rates would need to rise, since government revenues from tariffs as a percentage of the value of imports were only about half the 8 percent that would have been implied by the statutory tariff rates.

³⁴ Their model of the Chinese economy takes into account important features such as the duty exemptions for intermediate goods used in the production of exports.

households with diverse income sources benefit more than those that depend only on farming.

The results of these quantitative analyses are highly stylized, since they assume that enterprises and households adjust successfully to the changes in incentives that are created by WTO accession. As OECD (2002b) has pointed out, to make these changes successfully is likely to require considerable strengthening of the economic system in areas such as enterprise governance and reform of the banking system.

Policy implications

The vulnerability of the rural sector to the trade reforms arises from restrictions on the movement of labor out of agriculture when returns fall. These restrictions inhibit the adjustment that is needed following accession and increase the vulnerability of poor people to downturns in agricultural prices. Their reform has now become urgent, because the partial liberalization of agriculture increases the pressures on workers to leave agriculture.

Hertel, Fan, and Wang (2002) consider the implications of two key complementary policies that might be used to deal with the problems of poverty in rural areas—(1) reducing the barriers to mobility of rural labor into nonagricultural employment, and (2) improving the availability of education in rural areas. They conclude that reductions in the barriers to mobility of labor out of agriculture would be an important antidote to increases in inequality between rural and urban sectors following accession, with diversified rural households becoming the largest gainers from a policy package combining WTO accession with reductions in rural labor mobility. Over the longer term there is another potentially important source of gains to the rural sector, since China will have the opportunity to press for greater market access for its labor-intensive exports.

Expansion of educational opportunities could also have powerful beneficial effects in helping to unskilled wages in both urban and rural areas³⁵. And improvements in agricultural technology would potentially yield large benefits to poor rural households that are able to adopt the new production techniques.³⁶

Social protection

China's network of social protection measures is still quite underdeveloped, with a stark dichotomy between urban and rural systems, a focus on reducing absolute poverty, and a high degree of decentralization in financing. The system in urban areas is relatively comprehensive, but that in rural areas is seriously deficient. In many areas, "the social safety net is full of holes."³⁷

China's social welfare measures are likely to remain partial in coverage and are not a viable tool for large-scale poverty reduction. Even so, particular attention needs to be given to strengthening basic safety nets for rural residents. Here, a feasible first step might be to

³⁵ Fan, Hertel, and Wang (2002) and Ianchovichina and Martin (2002).

³⁶ Ianchovichina and Martin (2002).

³⁷ Hussain (2002).

extend a mechanism like the urban unemployment insurance schemes to wage employees in township and village enterprises.

Conclusions

China's WTO accession agreement provides a comprehensive roadmap for many aspects of reform in China's trade regime. In particular, it provides for substantially reducing protection, for strengthening the protection of intellectual property rights, and for adopting a framework of trade rules at home and abroad. However, the agreement is not all-inclusive, and China needs to keep a strong focus on its development needs, maintaining the perspective that has guided the steady transformation of its trade regime and economy, generally, from plan to market.

A key concern in the accession agreement is the provisions on antidumping and safeguards. The nonmarket economy provisions that countries are permitted to invoke against China for up to 15 years are likely to result in the imposition of antidumping duties substantially higher than those invoked against other countries—and in a situation where China faces seven times as many antidumping actions per dollar of exports as the United States. The Product-specific Transitional Safeguard Provisions, applicable for the next 12 years against China alone, are a new form of protection. The associated provisions on trade diversion lack even basic procedural restraints and pose a potentially serious threat to China's export development. China may be tempted to retaliate, particularly with antidumping actions of its own, but retaliation would damage China more than its trading partners. A better option would be to seek reform of the WTO rules in these areas.

Our analysis suggests that agriculture is being liberalized by less than was suggested by some earlier studies that began from the assumption that agricultural tariff were being reduced from their statutory levels. However, there are significant liberalizations in areas such as maize, cotton, and sugar, and it appears that there will be significant adjustment pressures in these industries. There will, however, be opportunities to expand exports of some labor-intensive exports as part of a broader policy reform, and by seeking increases in agricultural market access in the Doha negotiations.

The industrial sector will face substantial adjustment pressures in key sectors such as automobiles, and beverages and tobacco, where external protection is being substantially reduced. Restructuring of scale-intensive sectors such as the automobile sector will be essential, and can generate substantial productivity gains. Overall, however, most of the adjustment in this industry has already occurred, and what remains involves an expansion in both imports and exports.

China's GATS commitments represent perhaps the most thoroughgoing liberalization of services trade ever undertaken in the GATT. Its range of offers is extremely broad, although some commitments involve restrictions on ownership, business scope or region. Critical sectors such as telecommunications, logistics and the financial sector, are to be confronted with renewed competition, and are likely to see a burst of innovation and productivity growth as these sectors are restructured.

China's labor markets are adversely affected by a range of regulations, such as the *hukou* system of residence permits regulating movement between urban and rural employment. This system, and related labor market policies, inhibit the adjustment needed following accession and increase the vulnerability of poor people to downturns in agricultural prices. Other features of the labor market, such as the "tie" to the land where households have use rights to land, but cannot sell it because property rights are not sufficiently well defined, restrict the mobility of labor out of agriculture.

We report two studies focused on evaluating the impacts of trade reform on poverty. Both find that the rural sector is more vulnerable to this reform than is the urban population. One provides a relatively optimistic longer-run picture, where virtually all households gain from the reform. The other provides a more upbeat picture, but one where rural households are more subject to negative shocks such as those resulting from reductions in protection on some agricultural commodities. Both models suggest that the key to mitigating these problems is to include reforms such as reductions in the barriers against movement of labor out of agriculture.

The network of social protection measures in China is quite underdeveloped, and a constraint on her ability to grow while dealing with widely-held concerns about the need to compensate the potential "losers" from the policy reforms. Particular attention needs to be given to strengthening the social welfare systems available to rural residents.

The dramatic increases in China's imports and exports associated with its accession create enormous opportunities for China's trading partners to benefit, both as suppliers of exports to this rapidly-growing market, and as beneficiaries of lower-priced and higher quality imports. In addition, many countries with similar ranges of exports will face greater competition in third markets for many products, and particularly for textiles and clothing, where the removal of quotas in 2005 will remove an enormous burden on China's exporters.