

WP/03/245

IMF Working Paper

China's Integration into the World Economy: Implications for Developing Countries

Yongzheng Yang

IMF Working Paper

Policy Development and Review Department

China's Integration into the World Economy: Implications for Developing Countries

Prepared by Yongzheng Yang¹

Authorized for distribution by Hans Peter Lankes

December 2003

Abstract

This Working Paper should not be reported as representing views of the IMF. The views expressed in this Working Paper are those of the author(s) and do not necessarily represent those of the IMF or IMF policy. Working Papers describe research in progress by the author(s) and are published to elicit comments and to further debate.

Although the rest of the world had waited a long time for China to open up, feelings were mixed when it actually did and began to integrate rapidly with the world economy. With the country's recent accession to the World Trade Organization (WTO), many of its trading partners are increasingly concerned that China's competition in the world goods and capital markets may adversely affect their own growth prospects. This paper examines the implications of China's WTO accession for other developing countries in the context of the country's long-term process of growth and opening up. The paper argues that China's integration into the world economy will inevitably impose adjustment costs on its trading partners in the short-to-medium term, but the benefits it generates are likely to dominate in the long run.

JEL Classification Numbers: F13, F14, F15

Keywords: China, WTO accession, export competition, FDI diversion, developing countries

Author's E-Mail Address: yyang@imf.org

¹ The author wishes to thank Hans Peter Lankes, Thomas Rumbaugh, Nicolas Blancher, Ali Kutan, and Yiping Huang for their helpful comments. Warwick McKibbin and Wing Thye Woo's prompt clarification of their simulation results is greatly appreciated. Mary Jo Marquez provided excellent editorial assistance.

Contents	Page
I. Introduction	3
II. China's Increasing Openness	4
III. China's Commitments to the World Trade Organization (WTO)	6
IV. Implications of China's WTO Accession for Developing Countries	9
A. Opportunities and Competition in Trade	9
B. Foreign Direct Investment (FDI) Diversion.....	12
C. The Overall Impact on Other Countries.....	16
V. A Long-Term Perspective.....	18
VI. Conclusion	25
References.....	27
Tables	
1. Simple Average Tariff Rates in China, Selected Years, 1982–2002.....	5
2. Simulated Effects on Export Values of China's WTO Accession, 2006.....	12
3. Effects of China and Taiwan Province of China's Accessions to the WTO, 2020	16
4. Welfare Effects of China's Accession to the WTO, 2006.....	17
5. Cumulative Effects of China's Accelerated Growth, 1975–95	20
6. Cumulative Effects of China's Growth on the Exports of Other Developing Countries, 1975–95.....	21
7. China's Imports from LDCs, 1990–2002	25
Figures	
1. China's Trade/GDP and FDI/Investment Ratios, 1981–2002	5
2. Effects of China's WTO Accession on GDP in Other Countries, 2002–20	15
3. China's Trade with Developed and Developing Countries, 1978–2002	22
4. China's Import Sourcing: Industrial Versus Developing Countries, 1978–2002.....	22
5. China's Trade with NIEs, ASEAN, and South Asia, 1978–2002.....	24

I. INTRODUCTION

The Chinese economy has become increasingly open since the late 1970s when the country embarked on economic reforms. How this increased openness has affected other developing countries has been a subject of intense debate, especially since the Asian crisis of 1997–98. Although most analysts attribute the crisis to corporate-sector weaknesses and macroeconomic vulnerability in the crisis economies, some have argued that China's increasing competition was at least partly responsible for the crisis.² China's accession to the World Trade Organization (WTO) on December 11, 2001 has intensified the debate. It has been contended that China has become a price setter for labor-intensive manufactured goods in the world market and that competitive pressure it creates could trigger a global deflation.³

China's sheer size in terms of population and, by implication (or extrapolation), its potential economic might, give rise to fear that China might wipe other developing countries out of the world market for labor-intensive manufactures. China's seemingly insatiable appetite for foreign direct investment (FDI) leaves little capital for other developing countries. If this were combined with a devaluation of the renminbi in the aftermath of WTO accession, so the argument goes, China could exert significant downward pressure on the growth of its competitors.⁴ Others recognize that China will become an increasingly important export market as it opens up further after WTO accession. They argue that in the long run China's growth and opening up are likely to benefit other developing countries (Huang, 2001; Adhikari and Yang, 2002).

This paper intends to accomplish two tasks. First, it analyzes the effects of China's WTO accession on other developing countries. Specifically, it tries to identify areas in which developing countries might be adversely affected by China's WTO accession and where and how they might benefit from it. It also provides some overall assessments. Second, the paper places China's WTO accession in the context of its long-term process of economic growth and opening up, and examines how this process is different from WTO accession alone in

² Makin (1997), Bergsten (1997), and *The Economist* (1997) are among those who share this view. Diwan and Hoekman (1999), Fernald and others (1999), Parker and Lee (2000), and Loungani (2000), among others, disagree with this view.

³ For a summary of this debate, see "China Is Becoming the World's Manufacturing Powerhouse," *Transition Newsletter*, available on the Internet at <http://www.worldbank.org/transitionnewsletter/octnovdec02/pgs4-6.htm>.

⁴ See Supachai and Clifford (2002) for a detailed account of the concerns. The concerns over a possible devaluation of the renminbi following WTO accession turned out to be unfounded. One would expect that China's trade liberalization would result in downward pressure on the value of the renminbi in the short run as prices of foreign goods fall relative to domestically produced goods (Rees and Tyers, 2002). Empirical evidence shows that import growth tends to outpace export growth in the first two years of accession to the General Agreement on Tariffs and Trade (GATT) and WTO, but the long-term effect on the trade balance is uncertain (Li and Li, 2000). Contrary to this theoretical and empirical prediction, the renminbi has been under pressure to revalue since China's WTO accession, in part owing to increased FDI inflows. The exchange rate issue will not be further discussed in this paper.

terms of its impact on other developing countries, including on the least developed countries (LDCs).⁵

The paper is laid out as follows. The next section provides a brief account of China's opening up in the past two and a half decades, followed by an overview of China's commitments to the WTO in Section III. The effects of China's WTO accession on other developing countries are examined in Section IV, and the long-term implications of China's growth and opening up are analyzed in Section V. Section VI concludes the paper.

II. CHINA'S INCREASING OPENNESS

As part of its overall reform strategy, China's trade reforms have been a gradual process. The first step of the reforms was to replace trade planning with border measures in the form of quotas, tariffs, and licensing. For a number of years, trade plans co-existed with exchange controls and border measures, but they eventually gave way to border measures in the late 1980s and early 1990s (Lardy, 1991). As can be seen from Table 1, initial tariff levels were high, but even these high rates probably understate the restrictiveness of the trade regime because of the extensive nontariff barriers in place. Over time, however, these tariffs were brought down steadily, and nontariff barriers were greatly reduced. While tariffs remained high, duty exemptions/drawbacks were increasingly used to encourage export production. Today, over half of China's imports comes into the country duty-free, and actual duty collection is about 3 percent of the import value.

Against the background of these reforms, there has been tremendous export expansion. China's merchandise exports increased from about \$10 billion per annum in the late 1970s to \$326 billion in 2002, or about 5 percent of total world exports—making it the sixth largest trading nation in the world. Primary commodity exports declined steadily while the exports of labor-intensive manufactures, such as textiles, clothing, toys, and electronics, have become dominant. Imports have also grown rapidly, with increasing demand for capital goods, raw material and intermediate goods. By the late 1990s, trade turnover accounted for more than 40 percent of China's GDP, making it a relatively open large economy (Figure 1).⁶

⁵ Include Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Cape Verde, Central Afr. Republic, Chad, Comoros, Congo, Democratic Rep. of, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, The Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Lao, PDR, Lesotho, Liberia, Madagascar, Malawi, Maldives, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Rwanda, Samoa, Sao Tome & Principe, Senegal, Sierra Leone, Solomon Islands, Somalia, Sudan, Tanzania, Togo, Tuvalu, Uganda, Vanuatu, Republic of Yemen, and Zambia.

⁶ The trade-GDP ratio is much lower if China's GDP is valued on a purchasing power parity (PPP) basis.

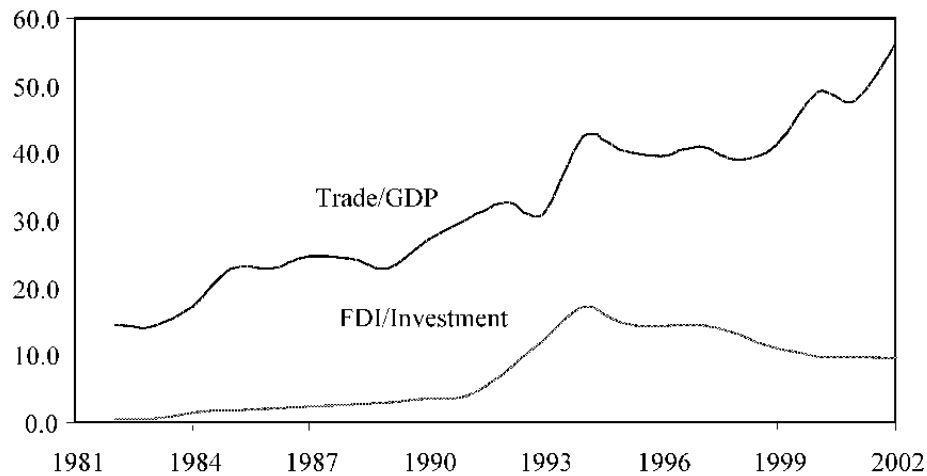
Table 1. Simple Average Tariff Rates in China, Selected Years, 1982–2002
(in percent)

Year	Tariff
1982	55.6
1985	43.3
1988	43.7
1991	44.1
1992	42.9
1993	39.9
1994	36.3
1996	23.6
1997	17.6
1998	17.5
2000	16.4
2001	14.0
2002	12.7

Sources: Ianchovichina and Martín (2001); Lardy (2002); and IMF staff estimates.

A less noticeable, but probably equally important component of the reforms was the decentralization of trade activities and the increased economic incentives provided to enterprises engaged in trade. The number of enterprises allowed to conduct foreign trade has increased from a dozen state-owned enterprises in the late 1970s to today's tens of thousands, many of which are non-state-owned. Export production has expanded from designated state-owned enterprises to virtually any that can supply goods in demand or subcontract from those which can directly trade.

Figure 1. China's Trade/GDP and FDI/Investment Ratios, 1981–2002
(in percent)



Source: IMF, *International Financial Statistics*.

To offset the disincentives to export arising from the overvalued official exchange rate, which was partly attributed to the extensive import barriers, a dual exchange rate system and foreign exchange retention by exporting enterprises were introduced in the early 1980s. An increasing proportion of trade transactions was conducted at the less distorted internal settlement rate and subsequently at the secondary market rate. Over time, exchange controls were relaxed and exchange rate distortions were reduced. In 1994, the dual exchange rates were unified at the prevailing secondary market rate, and in 1996, exchange controls on current account transactions were abolished.

China has also attracted large volumes of FDI since 1979, when it introduced its first law governing joint ventures. Like its trade regime, China's investment regime was initially rigid and fraught with bureaucracy and lack of transparency. Notwithstanding continued problems, the regime has improved steadily, often prompted by the successes of special investment policies first experimented with in special economic zones on the southeast coast of the country (Tseng and Zebregs, 2003).

China's FDI is still moderate in per capita terms, but its FDI-investment ratio is relatively high among developing countries (Figure 1). Total FDI inflows reached \$53 billion in 2002, overtaking the United States as the world's largest FDI recipient that year.⁷ Large FDI inflows have fueled export growth. Many FDI firms take advantage of China's competitive wages and are engaged in processing trade. With incentives offered through duty exemptions and drawbacks for export production, processing trade has surged, accounting for more than half of the country's total exports.

III. CHINA'S COMMITMENTS TO THE WORLD TRADE ORGANIZATION (WTO)⁸

China made wide-ranging commitments to liberalizing its markets in exchange for the various rights it now enjoys under WTO rules and for the phased removal of quantitative restrictions facing its exports in other WTO members.⁹ Once the commitments are implemented, the Chinese market should become significantly more open than it is now, not only in terms of lower border barriers, but also in terms of greater transparency of the trade regime.¹⁰

In agriculture, China has committed to binding all tariffs. The average bound tariff will be reduced to 17.4 percent by 2005 from 31.5 percent before accession. For sensitive

⁷ This number is likely to have been overstated as "round-tripping" FDI is a prevalent problem.

⁸ This section draws on Adhikari and Yang (2002). More detailed discussions of China's commitments and their implications can be found in Lardy (2002), Supachai and Clifford (2002), and Yang (2002b).

⁹ For a detailed discussion of the commitments made by China's trading partners, see Yang (2002b).

¹⁰ It is beyond the scope of this paper to evaluate China's implementation of its commitments, whose first annual reviews were completed by the WTO in late 2002 under the transitional review mechanism.

commodities, mostly cereals, a revamped tariff rate quota (TRQs) system has been put in place to regulate imports. While the above-quota tariff rates for TRQs are up to 65 percent (reduced from 80 percent), the in-quota rates are minimal (1–3 percent). Quota volumes generally increase rapidly, leaving considerable room for import expansion over time. China also agreed to eliminate export subsidies upon accession and limit its aggregate measure of support (AMS) to 8.5 percent for every product, instead of an average for all products.¹¹ This would constrain China from providing disproportional support to any particular product. Based on these commitments, Johnson (2000) claims that China's agricultural market will be more open than either the United States or the EU.

Quantitative restrictions on imports of industrial products were to be eliminated upon accession or phased out over a specified period of time. Industrial (bound) tariffs would be reduced to 9.4 percent by 2005. Like in agriculture, all tariffs are bound. China has also agreed to sign up to the WTO Information Technology Agreement (ITA), which will by 2005 result in the elimination of tariffs on information technology products.¹²

The most far-reaching market opening is likely to take place in the services sector. China's services sector has been largely closed to competition, both from domestic and foreign services providers. Before WTO accession, foreign services providers faced extensive restrictions in licensing, equity participation, geographic location, business scope and operations. All these would be relaxed after accession or eventually removed after a transition period.

A wide range of services industries would be open to foreign competition. These include telecommunications, financial services, distribution, travel and tourism, professional services and audiovisuals. In all these industries, restrictions on entry and foreign ownership were to be relaxed upon accession and would be further reduced over a specified period of time after accession. Restrictions on geographic location, business scope and operations would be eventually abolished. Based on an assessment of the coverage and depth of these commitments, Mattoo (2002) concludes that China's commitments under the General Agreement on Trade in Services (GATS) represent the most radical reform program negotiated in the WTO.

In addition to market access, China made extensive commitments to compliance with WTO rules. It agreed that it would apply its trade policy uniformly across the country, and that it would enforce only those laws, regulations and other measures that have been published beforehand and make them available to other WTO members. An official journal has been

¹¹ Under the Uruguay Round Agreement on Agriculture, domestic support of up to 5 percent of the value of *total* agricultural production may be exempt from reduction commitments. For developing countries, this so-called de minimis threshold is 10 percent.

¹² Under the ITA, developed country participants must eliminate all tariffs on specified IT products by January 1, 2002, and developing country participants may have an extended deadline of 2005 for at least some products.

established to publish all trade policy measures and a central enquiry point has been set up to answer all inquiries promptly. All these should increase the transparency of the trade regime.

China has agreed to liberalize trading rights and bind its state trading companies to commercial behavior in conducting their business. It would fully comply with the TRIMs and TRIPS Agreements upon accession, forgoing any transition periods which are available to other developing countries. With regard to sanitary and phytosanitary (SPS) standards and technical barriers to trade (TBT), China also pledged full compliance upon accession. All import and export licensing requirements would be made consistent with WTO rules, all prohibited subsidies would be eliminated. These commitments were to ensure that China's commitments in market access would not be negated by nontariff barriers.

China has also reluctantly accepted some discriminatory provisions in its accession protocol which can be used to limit the access of its exports to overseas markets. These provisions generally violate the nondiscrimination principle of the WTO and are likely to be a major source of trade dispute between China and its trading partners.¹³

The first of these provisions is the transitional product-specific safeguard mechanism. Unlike the general WTO safeguard rules, this mechanism targets Chinese products only. It can be invoked if there is "market disruption or the threat of market disruption caused by Chinese imports, instead of the more stringent injury test of "serious injury or the threat of serious injury" under the WTO Agreement on Safeguards. The transitional safeguard measures can also be taken by a third country if there is diversion or a threat of diversion of Chinese exports to that country as a result of a safeguard action by the first importing country. This safeguard mechanism will last for 12 years after China's accession to the WTO.

China's textile and clothing exports will be subject to a special safeguard mechanism until the end of 2008, even though import quotas in the United States, Canada, and the EU will be phased out by the beginning of 2005. Like the transitional safeguard mechanism, this special safeguard mechanism is discriminatory and based on the notion of market disruption, as in the defunct Multifiber Arrangement (MFA). While it limits any safeguard action to a duration of one year and provides for 6–7.5 percent annual increase in the growth of Chinese imports, it can take effect immediately upon request by the importing country for consultation with China. Special safeguard measures can also be re-applied. Chinese exporters will be assessed on dumping and subsidy charges according to rules that apply to nonmarket economies. Essentially, importing countries may use the prices or costs of similar products in other countries, instead of Chinese prices, to determine whether Chinese firms are dumping their products or are being subsidized. This had been the practice used by a number of countries before China's accession to the WTO, but it is now legitimized on a multilateral basis through China's accession protocol.

¹³ The terms of WTO accession are the outcomes of negotiations between the acceding member and the existing members, and hence may not be consistent with general WTO principles or provisions.

IV. IMPLICATIONS OF CHINA'S WTO ACCESSION FOR DEVELOPING COUNTRIES

The effects of China's WTO accession on other developing countries are likely to be felt in two areas.¹⁴ In the goods and services market, there will be increased competition from Chinese exporters in the world market as well as increased export opportunities in China. In the international capital market, competition for FDI is likely to intensify as the Chinese market becomes more open to foreign investment. At the theoretical level the impact of China's WTO accession on its trading partners is ambiguous. The impact will vary from country to country, depending on their trade structure and investment relations with China. Evaluating this impact is therefore largely an empirical exercise.

A. Opportunities and Competition in Trade

In the goods and services markets, the impact of China's WTO accession on other developing countries can be examined in terms of two offsetting effects. The first and most obvious effect is the increasing opportunities for exports to China after WTO accession. This pushes up export prices as well as increases export volumes. The second effect relates to the substitution of Chinese exports for its trading partners' products, both in their own and third country markets. While increased competition in third country markets reduces partner countries' export revenue by lowering their export volumes and their prices, increased export supply from China lowers costs of imports for partner countries. The strength of the first effect depends on the degree of complementarity between China's imports and its trading partners' exports. The second effect depends on the similarity of export commodities between China and its developing country partners; the more similar they are, the stronger is the substitution effect. A trading partner of China may lose exports in third country markets while gaining sales in the Chinese market in addition to a terms of trade improvement in its own market. Conceivably, a country's gain in the Chinese and its own markets can outweigh its loss in third country markets if its exports are sufficiently complementary to Chinese imports.

While China's increased exports to industrial country markets tend to substitute for exports from other developing countries, they at the same time raise demand for imports from these countries. China has over time become a regional manufacturing base for production of consumer goods, increasingly using imported intermediates as import barriers continue to fall. As a result, greater specialization of production has emerged among Asian economies, with China being the central link between its Asian trading partners and the industrial country markets (Yoshitomi, 2003). China's position in this global manufacturing chain has been strengthened in recent years by large inflows of FDI. This has increased the complementarity between China and its regional trading partners and generated substantial efficiency gains.

¹⁴ There are already many studies of the impact on developed countries of China's accession to the WTO and trade liberalization in general, and almost all of these studies conclude that developed countries will benefit. See OECD (2001) for a survey. The discussion here therefore focuses on the impact on developing countries.

In agriculture, China's low in-quota tariff rates and increasing quota volumes can give rise to rapid increases in import demand for many agricultural commodities. For bulk commodities other than rice, the Americas and Australasia may prove most competitive.¹⁵ Some Asian developing countries, such as Thailand and Vietnam, however, can significantly increase their rice exports to China. For most developing countries, potential for export expansion probably lies in labor-intensive and specialty products, most of which are subject to significant tariff reductions. China's demand for some tropical and sub-tropical products has grown rapidly in recent years (especially from Southeast Asia), and is also likely to accelerate after WTO accession. Palm oil, coconut oil, rubber, bananas, and sugar are among a wide range of products that many developing countries can increase their exports to China, especially in the north.

Developing countries can expect a significant expansion of industrial exports to China after WTO accession, although export gains will be uneven across countries. Despite significant reductions in bound tariffs as a result of WTO accession, effective reductions in tariffs are generally moderate, as applied tariffs are often significantly lower than their bound rates because exemptions and duty drawbacks were already extensive before accession. The most significant reductions in tariffs are likely to be in industries where industrial countries and the large, more advanced developing countries (e.g., Brazil, India, and Russia) have a comparative advantages vis-à-vis China. These are presently highly protected automobiles and heavy chemical industries. In addition, developing countries specializing in electronic products are likely to receive a boost to exports to China as it demands more intermediate inputs for its own expanding electronics industry, although their labor-intensive electronics will face increased competition from China (see below).

There is considerable potential for developing countries to expand their exports of mineral products. Tariffs on these products were already low before WTO accession, but their binding and the opening up of associated services sectors (such as distribution) should significantly improve the predictability of export opportunities. Resources-rich countries have already seen the increasing importance of Chinese demand in supporting global prices for minerals.¹⁶ Higher world prices, however, increase the costs of imports for minerals-deficient countries. This is particularly true in the energy sector, where China's increasing demand has resulted large increases in petroleum imports.¹⁷

For most developing countries, China's WTO accession will probably not provide many opportunities for services exports. As noted earlier, China's most significant market opening is in sectors where industrial countries tend to have a comparative advantage (such as financial services, telecommunications, and professional services). Nevertheless, several

¹⁵ Anecdotal evidence suggests that there have been sharp increases in China's demand for agricultural and other commodities from Latin America. See the *Financial Times*, September 26 and 29, 2003.

¹⁶ See Footnote 15.

¹⁷ Similar terms of trade effects will be felt in the world agricultural market as China's imports increase.

Asian developing economies have become significant service providers in China and are likely to benefit considerably from services liberalization. India, in particular, has great potential to increase its exports of professional and IT-related services to China. There are also some niche markets for other developing countries. In tourism, travel and hospitality industries, for example, some Asian developing countries can become significant services providers by taking advantage of the thriving outbound tourism industry in China.

As far as China's increasing competition in the world export market is concerned, most of the negative impact is likely to be seen in textile and clothing and electronics industries; competition in agriculture and services industries will be largely unaffected as China's trading partners, including industrial countries, did not make many significant concessions on imports from China as part of accession negotiations. China's textile and clothing exports, especially the latter, have proven very competitive (Francois and Spinanger, 2001). For this reason, they have faced more stringent restrictions under the MFA than exports from most other developing countries. Continuous liberalization of MFA quotas, culminating in the final elimination of all remaining quotas at the beginning of 2005, will lead to further expansion of Chinese exports, probably at the expense of some other developing countries.¹⁸ Table 2 shows a set of simulation results using the GTAP model.¹⁹

Caution is warranted in interpreting the results in Table 2. These estimates are based the assumption that quotas facing China will be completely removed in 2005, without substitution by other forms of protection. It is quite possible that China's textile and clothing exports will face new restrictions under the special or product-specific safeguard mechanisms after MFA quotas are phased out. For this reason, the estimates in Table 2 probably represent the upper bound of the impact. In addition, the simulation assumes no changes in productivity as trade is liberalized. It is almost certain that there will be productivity responses from producers around the world and hence changes in relative competitiveness among exporting countries.²⁰ In addition, recent international pressure on the renminbi exchange may result in a revaluation of the currency, although the timing is uncertain.

¹⁸ There have been sharp increases in Chinese exports of products for which quotas were removed in 2002 under the Agreement on Textiles and Clothing (ATC). At the same time, many developing countries suffered export losses in these products. Also see IMF and World Bank (2002) for the adjustment issues facing developing countries arising from the liberalization of the textile and clothing sector.

¹⁹ The standard GTAP model and its corresponding databases were developed under the Global Trade Analysis Project at Purdue University (Hertel, 1997). Database version 5 is documented in Dimaranan and McDougall (2002). The model is run using GEMPACK.

²⁰ There is also an issue of the benchmark against which the impact of China's accession to the WTO is measured. While the results in the table show the effects of removing quotas facing Chinese exporters only after those facing other developing countries have already been removed, other available results may be calculated assuming simultaneous removal of MFA quotas on *all* developing countries, including China. The latter approach will show a smaller increase in China's exports, and changes in other countries' exports may differ from those in Table 2 depending on the extent of restriction they currently face.

Table 2. Simulated Effects on Export Values of China's WTO Accession, 2006
(in percent)

	Textiles	Clothing
Newly industrialized economies ^{1/}	18.3	-22.7
ASEAN ^{2/}	-2.4	-31.2
South Asia	3.3	-19.4
Latin America	-5.6	-32.2
North Africa and Middle East	-6.8	-28.0
Southern Africa Customs Union	-5.2	-21.5
Rest of Africa	-7.9	-32.4
Rest of the world	-5.1	-32.0
Industrial countries	-1.7	-14.4

Source: Author's simulations with the GTAP model, based on database version 5.

1/ Includes Hong Kong SAR, Korea, Singapore, and Taiwan Province of China.

2/ The Association of Southeast Asian Nations.

China's exports of electronic products are expected to expand rapidly in the next few years, posing increasing competition with other developing countries in the region. The likely boost to China's electronic exports comes from its participation in the ITA (see Section III). Duty free imports of intermediate inputs will encourage processing trade in the electronic industry, perhaps much as happened in the textile and clothing and toys industries in early years (Adhikari and Yang, 2002). The growth of processing trade is likely to accelerate as firms in Taiwan Province of China and the Republic of Korea continue to relocate the labor-intensive end of their electronics industry to China.

As China's processing industries expand, its demand for imports of electronic components will grow, especially at the higher end of capital intensity and technology sophistication. For these products, it will probably take a number of years for China to catch up with some more advanced developing countries in the region. Meanwhile, there will be increasing intra-industry trade between China and other major producers in electronic products in Asia, notably, the Republic of Korea, Taiwan Province of China, Singapore, Malaysia, and the Philippines (Yoshitomi, 2003).

B. Foreign Direct Investment (FDI) Diversion

It is widely expected that China's entry into the WTO will make it more attractive to FDI and as a result may further divert investment away from other developing countries. This concern has been expressed most strongly in ASEAN.²¹ The rapid growth of FDI in China may have

²¹ Some ASEAN countries, especially Singapore and Thailand, are net investors in China. They should benefit from likely increases in returns on their existing and new investment in China.

been at the expense of ASEAN countries, especially since the Asian crisis of 1997-98.²² In the early 1990s, ASEAN accounted for some 30 percent of FDI in developing Asia, while China accounted for 18 percent. In 2000, ASEAN's share dropped to 10 percent, while China's increased to about 30 percent.²³ Interestingly, a large proportion of China's FDI inflows comes from within developing Asia, most notably from the Hong Kong SAR, Taiwan Province of China, Singapore, Korea, and Thailand. As noted earlier, a significant part of FDI in China is "round-tripping" capital of Chinese origin (mostly via Hong Kong), though this does not seem to alter the fact that FDI inflows from the rest of developing Asia to China has increased substantially. The United States, EU, and Japan accounted for a relatively small share (about 13 percent in 2002) of China's total FDI inflows. In fact, the three countries still invest less in China than in ASEAN.

It is difficult to judge the extent to which the redistribution of FDI among Asian developing countries has been the result of China's increased attractiveness to FDI. Other shocks are likely to have contributed to the outcome. Structural weaknesses in some of the regional economies, as exposed during the Asian Crisis, are probably another important one. Prior to the Asian crisis in 1997-98, both China and ASEAN enjoyed rapid growth in FDI inflows, but both suffered a decline in inflows during the crisis. While FDI in ASEAN has recovered in recent years, inflows to China have surged. Information technology booms in industrial countries following the crisis almost certainly have diverted investment away from ASEAN and many other developing countries.

Should ASEAN be concerned about FDI diversion? If returns on capital are low in ASEAN, it makes sense to let capital flow to China where returns might be higher. In the extreme case where there is excessive investment, which was certainly the case in some sectors (e.g., real estate) in some ASEAN economies prior to the onset of the Asian crisis, FDI diversion to China would be beneficial. In normal circumstances, however, FDI diversion to China does impose costs on other developing countries. At any given level of world FDI supply, China's increased attraction to FDI raises the cost of FDI for other developing countries. This may slow their investment and hence economic growth. In addition, FDI is widely believed to generate externalities in host developing countries through its technological spill-over effects.

To what extent will accession-induced FDI diversion affect other developing countries? The answer depends on how reforms associated with accession increase the returns on investment and reduce the risk premium demanded by foreign investors in China. In a recent paper evaluating the impact on neighboring countries of China's WTO accession using the G-Cubed model, McKibbin and Woo (2003) present three scenarios. The first scenario is what the authors regard as a "naive" case, in which China's WTO accession is simulated as

²² Tan (2001), however, offers a contrary view. Based on historical correlations between FDI flows to China and Asian newly industrialized economies, he claims that FDI flows to China and other Asian economies have been complementary rather than competing.

²³ *Oxford Analytica*, "South-East Asia: China Challenge," January 8, 2002.

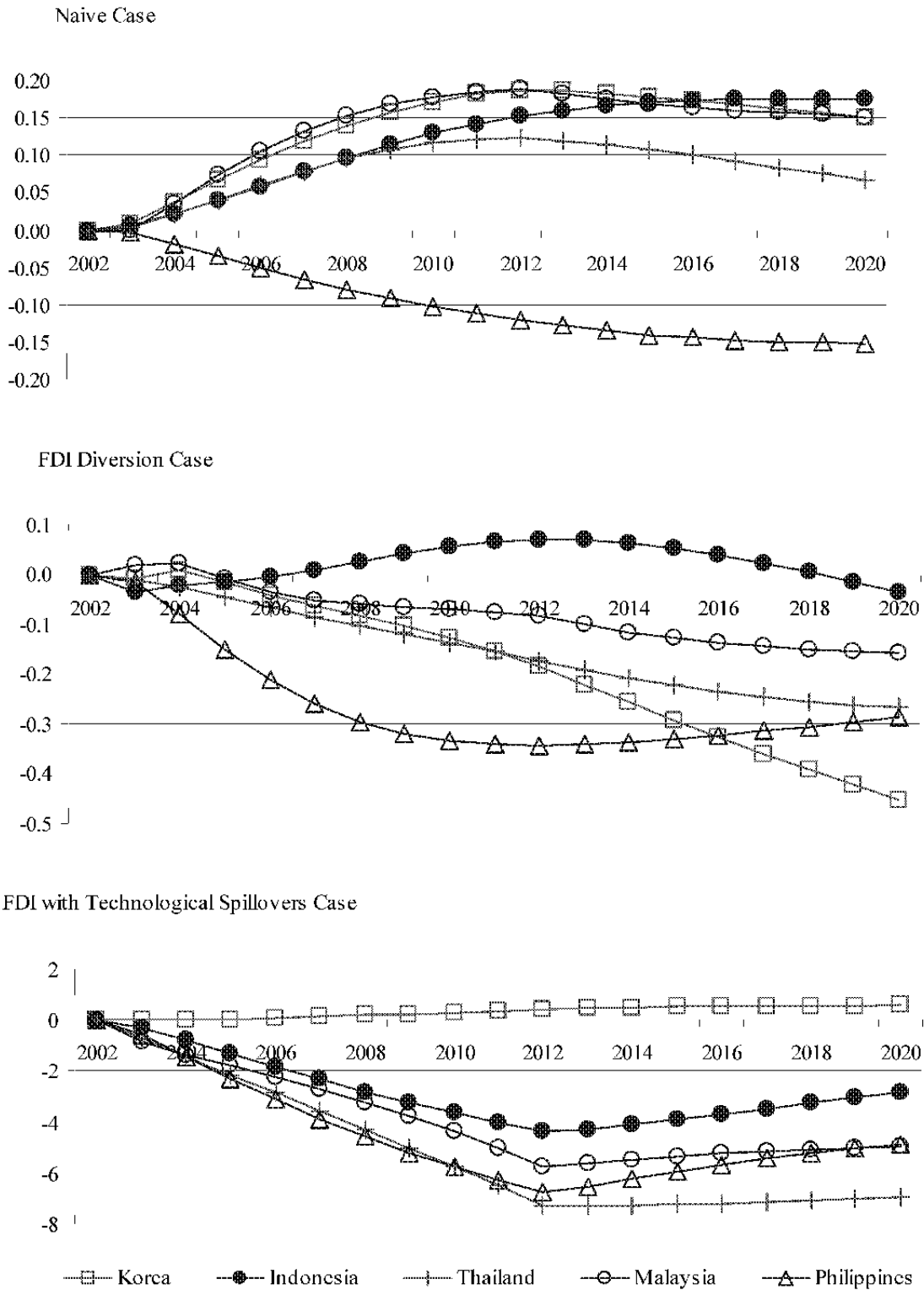
reductions in its trade barriers. In the second scenario, the “FDI diversion case,” a 1 percentage point reduction in the risk premium for investment in China is introduced on top of trade barrier reductions. In the last scenario, the simulation incorporates the so-called “technological spillover” effects of FDI in host countries. In particular, it is assumed that China’s total factor productivity (TFP) growth would be 1 percentage point higher per annum for the period 2003–2112, whereas TFP growth in Indonesia, Malaysia, the Philippines, and Thailand would be 1 percentage point lower per annum for the period. By 2112, TFP would be 10 percentage points above the baseline in China and 10 percentage points below the baseline in the four Southeast Asian countries.

Simulation results show that if the effect of WTO accession does not go beyond raising expected returns on investment in China (the naive case), there is likely to be limited investment diversion (China’s investment would rise 2.5 percent above the baseline in the long run) and hence small impact on GDP in other countries (Figure 2). The impact increases significantly but remains small when accession results in a reduction in the risk premium in China.²⁴ It is only when one assumes that FDI diversion will lead to a large TFP divergence between China and the four Southeast Asian countries that China’s WTO accession results in a significant adverse impact on these countries. This technological spillover scenario, though illustrative, is unlikely to happen. Faced with increased competition from China, other developing countries are likely to respond with greater efforts to increase their efficiency and should be able to compensate for at least part of the TFP loss resulting from lower FDI inflows. The FDI diversion implied in the simulation is largely driven by the 20 percent gap that emerges from the assumed accession impact.

The simulations assume full international capital mobility for China. This tends to overstate the potential capital inflows as a result of WTO accession (indeed, as do the simulation results presented in the following section). Despite its WTO commitments, China will probably continue to maintain capital account controls for some time to come. Scheduled reductions in barriers against foreign investment in the services sector will likely lead to increased FDI inflows in this sector, but tariff reductions will probably result in consolidation of FDI in the manufacturing sector, rather than continued rapid growth of new investment. For example, the phasing out of extensive nontariff barriers and reductions in high tariffs on automobile imports will discourage further investment in the sector. Even in the services sector, restrictions on FDI will be relaxed over time, and barriers to entry tend to be far more complex (such as asset portfolio requirements for foreign banks) than in the manufacturing sector (Lardy 2002). In addition, as the global economy recovers, China is likely to become less attractive to FDI.

²⁴ Small GDP declines of the magnitude in the first two scenarios may not translate into welfare losses. The falls in GDP result primarily from investment relocation to China. Increased foreign investment in China raises the income of capital-exporting countries. Such results are shown by Walmsely and others (2001).

Figure 2. Effects of China's WTO Accession on GDP in Other Countries. 2002–20 (percentage deviation from the baseline)



Source: McKibbin and Woo (2003).

C. The Overall Impact on Other Countries

The above discussions suggest that evaluating the impact of China's WTO accession on other developing countries, as well as on China itself, is a complex exercise, as it involves careful analysis of changes in various markets and their interactions in response to China's WTO accession. For this reason, most quantitative assessments of the impact of China's WTO accession use general equilibrium models.²⁵ They tend to focus on the medium-term impact on the real economy, with limited attention to short-term macroeconomic dynamics. On the other hand, existing assessments of China's accession to the WTO incorporating such dynamics generally do not have sufficient details to trace the sources of welfare changes.

Table 3 presents the results from Walmsley, Hertel, and Ianchovichina (2001), which takes into account across-country ownership in a recursive dynamic model. The results show that industrial countries and the more advanced developing countries in Asia gain from China's accession to the WTO, while the less advanced developing countries tend to lose, albeit most only marginally, from China's accession. This set of results is somewhat typical of most existing studies using general equilibrium (CGE) models.²⁶

Table 3. Effects of China and Taiwan Province of China's Accessions to the WTO, 2020 (in percent, unless otherwise indicated)

	Rcal GDP	Export volumes	Import volumes	Welfare (billion 1995 U.S. dollars) ^{1/}
China	4.2	17.6	16.7	10.5
North America	-0.1	0.9	1.9	7.6
Western Europe	-0.1	-0.0	0.2	3.8
Japan	-0.1	0.8	1.0	1.6
Taiwan Province of China	3.4	12.9	14.2	6.4
Other NIEs ^{2/}	0.1	0.5	0.6	1.0
Southeast Asia	-0.6	-0.8	-0.8	-1.6
South Asia	-0.8	-3.3	-3.5	-2.5
Latin America	-0.2	-0.6	-0.2	-0.4
Africa and Middle East	-0.2	-0.6	-0.4	-0.8
Rest of world	-0.1	-0.1	0.1	-0.0

Source: Walmsley and others (2001).

1/ Measured by equivalent variation.

2/ NIEs denotes newly industrializing economics.

²⁵ These are mostly traditional CGE models of the real economy, with Rees and Tyers (2002) and McKibbin and Woo (2003) being notable exceptions.

²⁶ For other studies, see, for example, Walmsley and others (2001), Ianchovichina and Martin (2001), Wang (2001), and Francois and Spinanger (2002). Also see OECD (2001) for a survey.

Decomposition using a static version of the GTAP model shows that most of the estimated losses for developing countries result from the removal of quotas on China's textile and clothing (T&C) exports to the United States, Canada, and the EU (Table 4).^{27 28} In fact, only South Asia and the North Africa & Middle East region would lose marginally from accession-induced tariff reductions alone. In general, lower tariffs in China improve the terms of trade for the rest of the world and increase the volumes of imports. For South Asia and the North Africa & Middle East region, however, their overall terms of trade deteriorate as agricultural prices in the world market rise with China's increased imports.

Table 4. Welfare Effects of China's Accession to the WTO, 2006
(measured by equivalent variation in millions of 1997 U.S. dollars)

	With Textile and Clothing Quota Removal	Without Textile and Clothing Quota Removal
China	12,725	5,417
NIEs ^{1/}	1,362	1,704
ASEAN ^{2/}	-1,219	56
South Asia	-2,861	-322
Latin America	-623	305
North Africa and Middle East	-603	-104
Southern Africa Customs Union ^{3/}	-62	10
Rest of Africa	-75	20
Rest of the world	-573	70
Developing countries other than China	-4,656	1,739
Industrial countries	6,049	4,408

Source: Author's simulations with the GTAP model based on database version 5.

1/ Newly industrialized Asian economies (Hong Kong SAR, Korea, Singapore, and Taiwan Province of China).

2/ The Association of Southeast Asian Nations except for Singapore, which is included in the NIEs.

3/ Botswana, Lesotho, Namibia, South Africa, and Swaziland.

²⁷ Notwithstanding the differences in model structure, the simulation underlying the results presented in Table 4 is equivalent to the "FDI diversion" case in the McKibbin and Woo (2003) study except that it includes the effects of removing MFA quotas, which account for the bulk of the negative effects on other developing countries. As in the McKibbin and Woo simulation, the risk premium in China is assumed to decline by one percentage point as a result of WTO accession. Data on tariff reductions are based on Deutsche Bank (2001). It is assumed that China's tariff-rate quotas will be filled. See Martin (2002) for the likelihood of such an outcome. Also see Ianchovichina and Martin (2001) for how simulation results might be affected by explicitly incorporating processing trade in the model.

²⁸ A similar set of results using the same model but incorporating productivity changes and excluding risk premium shocks is reported in Dorsey and others (2003).

Great caution should be exercised in interpreting these results. First, like most other studies of this type, the results do not take into account the effects of China's liberalization in the services sector and changes in trading rules as a result of WTO accession. Second, these results capture only part of the impact of China's WTO accession even as far as merchandise trade is concerned. In particular, they do not incorporate any productivity changes arising from trade liberalization. Other effects missing from these results are the benefits from improved transparency of the trade system and deeper integration into the global economy. In the case of agriculture, for instance, China's commitment to no export subsidies and moderate domestic subsidies will help reduce price volatility in world prices. At the macroeconomic level, China's greater openness can help mitigate macroeconomic cycles in the regional economies, as happened during the Asian Crisis in 1997-98 and the most recent global economic downturn (Yang, 2002a).

V. A LONG-TERM PERSPECTIVE

The concerns over China's ascendancy resemble the anxiety caused by Japan's economic emergence after World War II. At that time, many developed countries feared that Japan's low-wage competition would be a serious threat to their industries. The response to this perceived threat by many of Japan's trading partners was to deny Japan MFN status even after its accession to the GATT in 1955, by invoking the nonapplication clause of the GATT, the predecessor to the WTO. In the case of China, the response was to introduce in China's protocol of accession special and transitional product-specific safeguards and to continue the pre-accession antidumping and countervailing practices against Chinese exporters (see Section III).

The emergence of a country of China's size would entail considerable adjustment in the rest of the world in the short to medium term, but these costs need to be balanced against the likely long-term benefits from the integration of a large country into the global economy. From a historical perspective, China's WTO accession is simply part of its growth and opening-up process. The effects of WTO accession, such as those reported in Tables 3 and 4, tend to be different from the long-term effects of general growth and opening up in at least one important aspect: because of reductions in trade barriers against Chinese exports, such as those in the world textile and clothing market, China's WTO accession produces a one-off spur to its export expansion, increasing competition with other developing countries. In the long run, however, China's growth and opening up should lead to more balanced expansion in both its exports *and* imports. Thus, to assess how China's emergence affects other developing countries, one needs to go beyond the effects of WTO accession, and examine these effects as part of the long-term implications of China's integration into the global economy.

A further comparison between China and Japan may help illustrate this point. From developing countries' point of view, there is now little doubt that Japan's growth and opening up after World War II have benefited them, especially those in Asia. Japan serves as an important export market and a source of technology transfer through FDI and exports of capital goods. Japan's contribution to the economic growth of other industrial countries may look less obvious, but is probably equally significant. In the early years after World War II,

Japan's exports were concentrated in labor-intensive manufactures, much like China's today.²⁹ If one believes that China's growing trade with today's industrial countries has benefited the latter (see footnote 14), then Japan's growth and trade with then industrial countries must have benefited them. Today's Japan is at the world's technological frontier, competing with other industrial countries in a wide range of manufactured goods and services (often in the form of intra-industry trade), while serving as a major export market for agricultural and other primary commodities—notwithstanding high trade barriers in agriculture. Given this, few would question that Japan's emergence has benefited industrial countries as well as developing countries.

There are nevertheless three major differences between today's China and the Japan then in its early stages of integration with the rest of the world. First, China's growth and opening up have coincided with the same process in a large number of other developing countries, whereas Japan was almost alone when it industrialized; there was limited competition between Japan and other developing countries (Japan was a developing country then). Second, while Japan hardly relied on foreign investment, China has absorbed large volumes of FDI in competition with other developing countries. Third, there are many more goods and services traded today than fifty years ago, thanks to the falling transport cost and lower man-made trade barriers. In addition, products have become increasingly differentiated over time within manufactured goods and services. Technological innovation and increasingly discerning consumers have made this possible.

The first two differences make China more likely to compete with other developing countries, while the third difference makes them more complementary. The question then is: can China's growth and opening up today still benefit other developing countries? One can think of China's growth and opening as having two offsetting effects on a developing country similar to those effects of WTO accession discussed in Section IV.A: the competitive and complementary effects. In this case, however, a third factor, the income effect, is likely to be far more important than in the case of WTO accession. China's WTO accession is likely to increase the country's income, but the magnitude is small compared with the income effect of factor accumulation and technological progress over time.³⁰

An empirical assessment of these two effects is reported by Yang and Vines (2000), who use the GTAP model³¹ to simulate the effects of China's accelerated growth during the period

²⁹ See Sumiya (2000) and Balassa (1988) for detailed analyses of changes in Japan's trade patterns after World War II. Krause and Sekiguchi (1976) provides an overview of Japan's economic relations with the rest of the world from the 1950s to 1970s.

³⁰ Of course, WTO accession is also likely to accelerate factor accumulation and technological progress. This effect should again be comparatively small.

³¹ The corresponding database (version 4) is documented in McDougall and others (1998).

1975-1995 (Table 5).³² These results show that China's growth acceleration during the period has benefited at least some developing countries and had little impact on others. This is because, on balance, China's accelerated growth leads to an improvement in the terms of trade for other developing countries, with the improvement in the terms of trade vis-à-vis China outweighing the deterioration vis-à-vis the rest of the world.

Table 5. Cumulative Effects of China's Accelerated Growth, 1975-95
(percentage change)

	NIEs ^{1/}	ASEAN ^{2/}	South Asia	Latin America
Terms of trade				
Total	1.0	0.2	0.1	0.2
China market	1.2	0.4	0.3	0.3
Third markets	-0.2	-0.2	-0.2	-0.1
Welfare (utility)				
Total	0.6	0.0	0.1	0.1
China market	0.9	0.2	0.2	0.1
Third markets	-0.2	-0.2	-0.1	0.0

Source: Yang and Vines (2000).

1/ Newly industrializing economies (Hong Kong SAR, Korea, Singapore, and Taiwan Province of China).

2/ The Association of Southeast Asian Nations.

It is noticeable from Table 5 that countries (such as the NIEs) that trade most extensively with China tend to benefit more from China's accelerated growth, and those that trade relatively less and compete more directly with China tend to benefit less or not at all. ASEAN belongs to this latter category of countries. This result is also born out by the trade results in Table 6. In comparison with the NIEs, ASEAN loses more exports in third country markets to China relative to what it gains in the Chinese market. ASEAN exports to China were relatively small until the mid-1990s. For the other two broad groups of developing countries, while they export less to China compared to ASEAN, their exports are in less direct competition with China in third country markets. So on balance, these two groups of developing countries also benefit from China's accelerated growth, albeit only marginally.

This result has two important implications: (1) increasing trade with China is an effective way to benefit from China's growth, and (2) to benefit from China's growth, the mercantilist approach must be avoided. Competitive imports from China improve its trading partners'

³² Technically, the simulations involve exogenously reducing the size and openness of the Chinese economy to its 1975 levels relative to industrial countries and comparing the resulting counterfactual equilibrium with the actual global economy in 1995. The exogenous shocks include those to primary factors, commodity composition of trade, trade-GDP ratio and implied capital account changes, global transport cost, and industrial country trade policy. For further details, see Yang and Vines (2000).

terms of trade, just as China's increasing demand for imports. Based these two insights, it is likely that the tremendous expansion of China's trade since 1995 has benefited its trading partners. China's trade more than doubled during the period 1995-2002 (see the next section).

Table 6. Cumulative Effects of China's Growth on the Exports from Other Developing Countries, 1975-95 (in percent)

	China Market		Third Markets		Total	
	Percent	(US\$b)	Percent	(US\$b)	Percent	(US\$b)
NIEs ^{1/}	740.3	49.0	-8.5	-38.6	2.4	10.4
ASEAN ^{2/}	545.2	6.6	-3.4	-8.0	-0.4	-1.5
China	0.0	0.0	571.1	181.5	571.1	181.5
South Asia	870.9	1.0	-2.4	-1.5	-0.8	-0.5
Latin America	481.4	3.2	-1.3	-3.5	0.0	-0.3
Older industrial	525.0	41.6	-1.2	-41.4	0.1	0.2
Japan	713.0	27.9	-5.6	-21.0	1.5	6.9
Rest of world	619.4	9.2	-1.6	-8.6	0.3	0.6
World minus China	629.9	138.5	-2.3	-122.6	0.3	15.9
World	629.9	138.5	1.1	58.9	3.6	197.4

Source: Yang and Vines (2000).

1/ Newly industrializing economies (Hong Kong SAR, Korea, Singapore, and Taiwan Province of China).

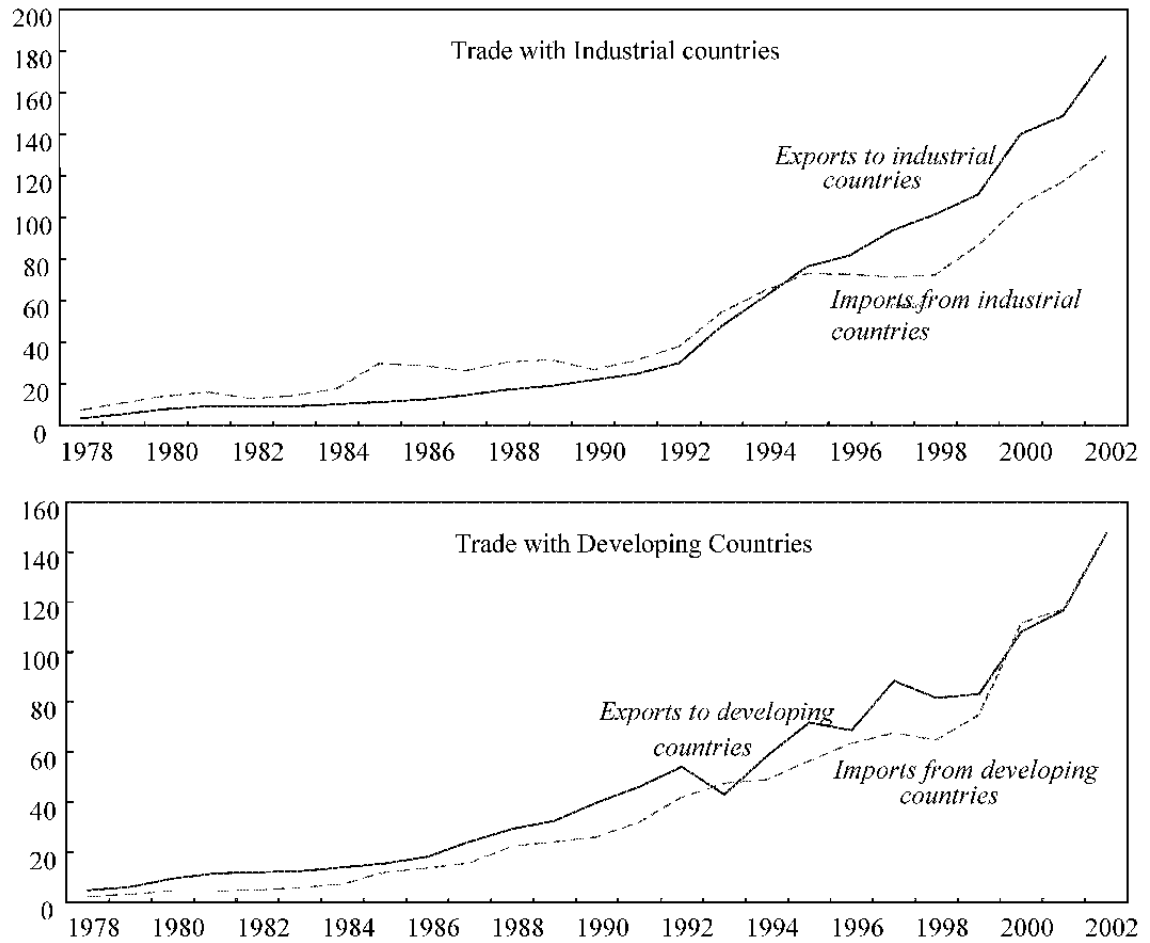
2/ The Association of Southeast Asian Nations.

A question remains whether or not this expansion of China's trade has benefited developing countries as well as industrial countries. Now given that many developing countries have similar factor endowments to China's, can they increase their exports to China as well as increase their imports from China? To answer this question, we turn to historical data.

Since the beginning of the economic reforms in 1978, China's imports have grown at a rate similar to that for exports, with exports exceeding imports in every year since 1994. Trade surplus averaged about 3 percent of GDP from 1994-2002. China ran a consistent trade deficit in its trade with industrial countries until 1996, and a trade surplus with developing countries in all but three years: 1993, 2000-01 (Figure 3); for these three years, China ran a small deficit. In 2002, bilateral trade was almost balanced. While it is too early to tell if the last three years represent a long-term change in China's trade with developing countries, China's imports from developing countries have been growing faster than its overall imports.

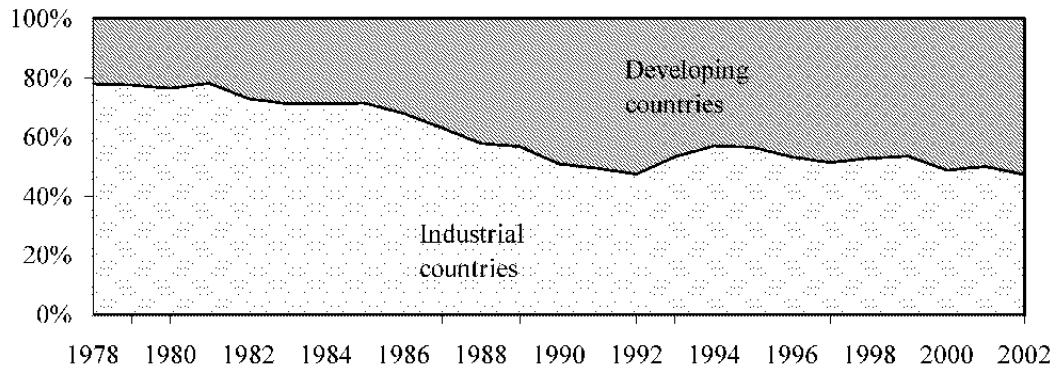
There seems to be a long-term shift in the sourcing of China's imports from industrial countries to developing countries (Figure 4). In 1978, nearly 70 percent of China's imports came from industrial countries. By 2001, this share had declined to 49 percent, although this occurred primarily before 1992. Underlying this dramatic change is the increasing trade with

Figure 3. China's Trade with Developed and Developing Countries, 1978–2002 (US\$ billion)



Source: IMF, *Direction of Trade Statistics*.

Figure 4. China's Import Sourcing: Developing Versus Developed Countries, 1978–2002



Source: IMF, *Direction of Trade Statistics*.

developing Asia, especially the Asian newly industrialized economies (NIEs) and ASEAN (Figure 5). In 1978, the NIEs accounted for about one percent of China's total imports, and ASEAN 3 percent. By 2002, these shares had increased to 29 and 11 percent, respectively. The most remarkable increases were in the bilateral trade with the Republic of Korea and Taiwan Province of China as a result of improvements in bilateral political ties. These two economies are now among China's top trading partners. In the first half of 2003, China overtook the United States as Korea's largest export market.

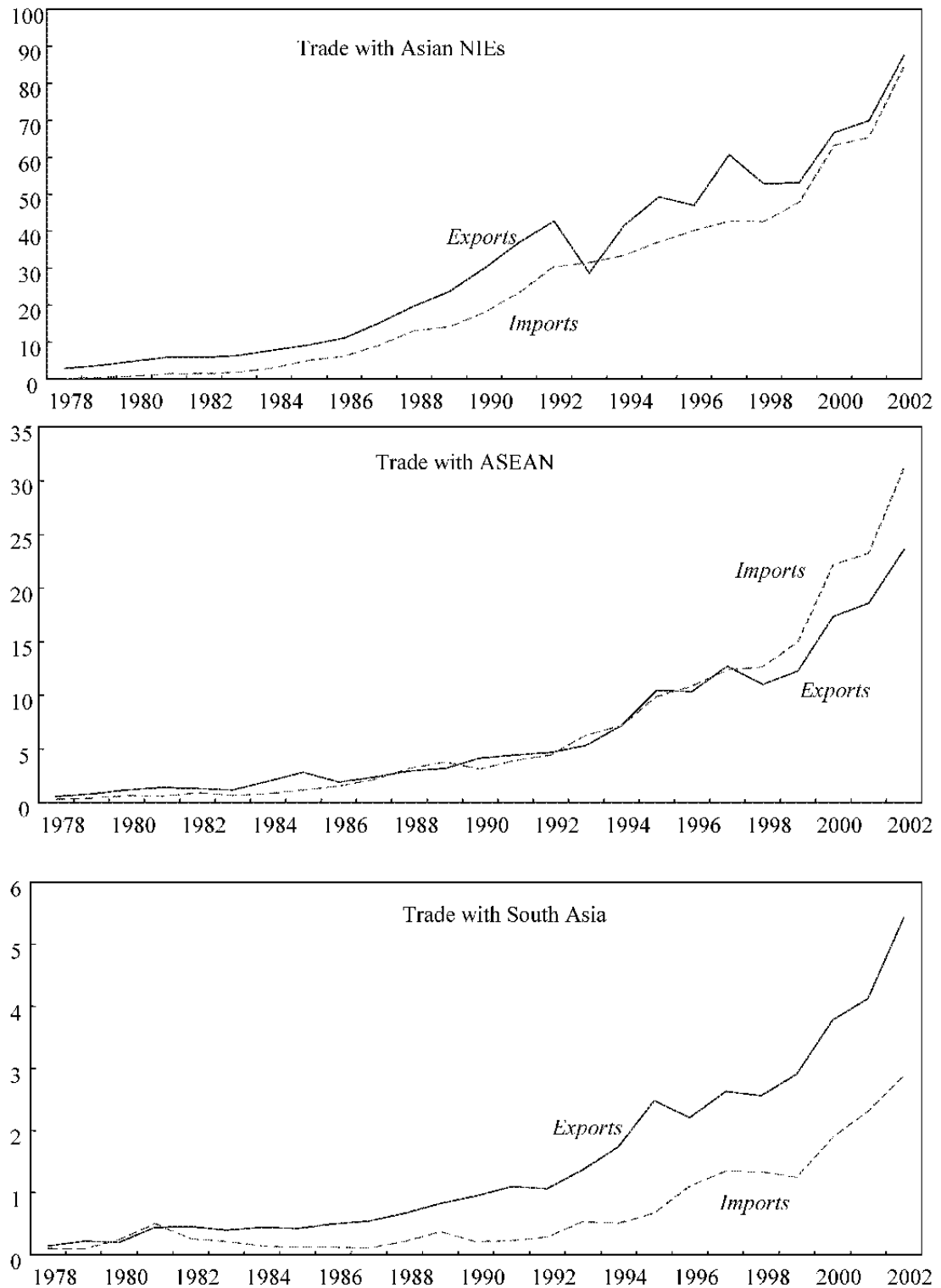
It is not just NIEs and ASEAN that have increased their exports to China dramatically; most other regions have expanded their trade with China rapidly. South Asia's exports to China have quadrupled since 1995, and India's exports increased by nearly fivefold (Figure 5). China's exports to the region more than doubled and to India more than tripled. Despite this, South Asia still runs a trade deficit with China because of its low starting point for exports and because of the relatively poor export performance of Pakistan and Bangladesh. China's imports from Africa also increased rapidly since the mid-1990s, reflecting the country's growing demand for energy and raw material. In 2002, Africa exported \$5.4 billion worth of goods to China, a threefold increase from its 1998 level.

Most remarkable has been the phenomenal expansion of trade between China and the LDCs. In 2002, China imported US\$ 3.5 billion worth of goods from the 48 LDCs (against exports of \$4.3 billion), up from less than \$US900 million in 1995 (Table 7). In 2002, China took more than 8 percent of total LDC exports to the world, making it the third largest market for LDC exports after the EU (34 percent) and the United States (23 percent). In 2002, LDCs accounted for 1.2 percent of China's total imports, against LDCs' share of 0.6 percent in world imports. In other words, China's trade with LDCs in 2002 was roughly twice as intensive as with an average trading partner. This is a sharp decline from the peak in 2000, when a surge in imports from Angola and the Republic of Yemen pushed the intensity index to 3.

This great volatility in trade intensity reflects the commodity composition of LDC exports to China (as it does of LDC exports in general). Most LDC exports to China consist of raw materials, especially mineral energy. Only Zambia, Bangladesh and Cambodia exported significant amounts of manufactured goods. Notwithstanding the weaknesses of this export structure in terms of its vulnerability to price volatility, LDCs do seem to have large potential in exports to China if they take the opportunity of China's opening up and meet China's growing demand for energy products and raw material. A difficult task to maintain the rapid trade with China is to build the necessary infrastructure and stay competitive in products of growing demand in China.

The above analysis suggests that in the long run, the effect of China's growth on other developing countries will become increasingly important relative to its competition effect (Fernald and others, 1999). With increasing trade and investment flows, China's increasing openness should ensure that its growth translates into increases in demand for imports from other developing countries, and vice versa.

Figure 5: China's Trade with Asian NIEs, ASEAN and South Asia, 1978-2002 (US\$ billion)



Source: IMF *Direction of Trade Statistics*.

Note: NIEs denotes newly industrializing economies (Hong Kong SAR, Korea, Singapore, and Taiwan Province of China); ASEAN denotes the Association of Southeast Asian Nations

Table 7: China's Imports from LDCs, 1990–2002
(in millions of US\$)

	1990	1995	2000	2002
Sudan	61	0	732	1157
Angola	1	6	1843	1087
Yemen, Republic	2	0	736	426
Equatorial Guinea	0	0	319	341
Myanmar	95	17	125	137
Liberia	3	0	35	56
Zambia	0	1	69	46
Bangladesh	24	0	19	32
Cambodia	0	45	59	25
Mozambique	60	0	9	23
Solomon Islands	0	0	13	18
Benin	0	1	1	17
Congo, Dem. Rep.	10	0	1	12
Guinea	0	1	0	12
Madagascar	5	0	6	11
Mauritania	0	5	5	10
Lao People's Dem	6	0	6	10
Tanzania	4	0	5	7
Other LDCs	29	785	23	35
All LDCs	300	863	4007	3461
Memo items:				
LDCs in China's total imports (percent)	0.5	0.7	1.8	1.2
China in world imports from LDCs (percent)	1.6	3.4	11.0	8.7
LDCs in total world imports (percent)	0.5	0.5	0.6	0.6
China's exports to LDCs (US\$ million)	934	2216	3385	4348

Source: IMF *Direction of Trade Statistics*.

Note: LDCs denote least developed countries.

VI. CONCLUSION

China's accession to the WTO results in greater competition in the world goods and capital markets, but it also provides increased market-access opportunities for exports from its developing country trading partners. Countries that have extensive trade links with China tend to benefit from China's accession to the WTO, while those that currently have limited trade with China may lose in the short and medium terms, especially if they export textiles and clothing and other labor-intensive manufactures to industrial countries in competition with China. This potential adverse effect is more likely to occur if these countries also compete with China for foreign direct investment. Simulation results suggest that the potential negative effects of China's WTO accession on these countries are generally small relative to their income.

The short-to-medium term impact of China's WTO accession on other developing countries differs from the long-term impact of China's growth and opening up. For historical reasons, China's exports of textiles and clothing have been subject to more stringent restrictions in industrial countries than those from other developing countries. The removal of this distortion as part of China's WTO accession package tends to lead to losses for some developing countries. More broadly, China's accession to the WTO should improve its competitiveness in labor-intensive manufactures as resources are released from presently more protected industries. In contrast, China's long-term growth and opening up have involved more even and smooth expansion of trade in a much wider range of commodities. Imports and exports have grown at a similar rate. After two decades of rapid growth, China's exports have diversified and upgraded considerably, and imports have become increasingly driven by processing trade and have shifted to goods in which many poor developing countries have a comparative advantage: agriculture, minerals, and other primary commodities.

Simulation results indicate that China's growth and opening up viewed as a whole do not seem to have adversely affected other developing countries. In fact, countries that have established strong trade and investment relations with China have benefited from the process. The mechanism whereby these countries have benefited is an important one: linking to a large, faster growing economy will improve the terms of trade as well as expand the volumes of trade. This could more than offset the losses in third-country markets as a result of increasing competition from China's faster-growing economy.

This prediction seems to be consistent with empirical evidence. During the past two decades, during which China's labor-intensive manufactured exports have increased rapidly, many developing countries, including the least developed countries, have been able to expand their exports to China. This suggests that a broad and long-term perspective is needed to evaluate the impact on other developing countries of China's accession to the WTO. Indeed, China's WTO accession is part of the country's reform and opening-up process that has been going on for more than two decades. A more open and faster-growing Chinese economy as a result of its WTO accession should benefit more developing countries in the long run.

References

- Adhikari, R. B., and Yongzheng Yang, 2002, "China's Increasing Openness: Threat or Opportunity," paper presented at a Trade Policy Workshop in Singapore, February 25–30.
- Balassa, Bela A., 1988, *Japan in the World Economy* (Washington, DC: Institute for International Economics).
- Bergsten, Fred, 1997, "The Asian Monetary Crisis: Proposed Remedies," Testimony before the U.S. House of Representatives Committee on Banking and Financial Services, November 13, Washington, DC.
- Deutsche Bank, 2001, "Quantifying the Impact of China's WTO Entry," December.
- Dimaranan, B. V., and R. A. McDougall, 2002, *Global Trade, Assistance, and Production: The GTAP 5 Data Base*, Center for Global Trade Analysis (West Lafayette, IN: Purdue University).
- Diwan, I., and B. Hoekman, 1999, "Competition, Complementarity and Contagion in East Asia," in *The East Asian Crisis: Causes, Contagion, and Consequences*, ed. by Pierre-Richard Agénor, Marcus Miller, David Vines, and Axel Weber (Cambridge, New York, and Melbourne: Cambridge University Press).
- Dorsey, Thomas, David Robinson, Yongzheng Yang, and Harm Zebregs, 2003, "The Impact of WTO Accession," in *China: Competing in the Global Economy*, ed. by Wanda Tseng and Markus Rodlauer, (Washington, DC: International Monetary Fund). Washington, D.C.
- Fernald, John G., Hali Edison, and Prakash Loungani, 1999, "Was China the First Domino? Assessing Links Between China and the Rest of Emerging Asia," *Journal of International Money and Finance*, Vol. 18(4), pp. 515-36.
- Francois, Joseph, and Dean Spinanger, 2001, "With Rags to Riches but Then What?" paper presented at the Fourth Annual Conference on Global Economic Analysis, Purdue University, West Lafayette, IN, June 27–29.
- , 2002, "Greater China's Accession to the WTO: Implications for International Trade/Production and for Hong Kong," paper prepared for the Fifth Annual Conference on Global Analysis, Taipei, June 5–7.
- Hertel, T.W., ed., 1997, *Global Trade Analysis Using the GTAP Model* (New York: Cambridge University Press).
- Huang, Yiping, 2001, "WTO Entry: China's Boon, Asia's Bane?" in *Asian Economics: Outlook and Strategy*, Salomon Smith Barney, June, pp.11–29.

- Ianchovichina, Elena, and Will Martin, 2001, "Trade Liberalization in China's Accession to the World Trade Organization," World Bank Policy Research Working Paper No. 2623, (Washington, DC: World Bank).
- International Monetary Fund and World Bank, 2002, "Market Access for Developing Country Exports—Selected Issues," available via the internet at:
<http://www.imf.org/external/np/pdr/ma/2002/eng/092602.pdf>.
- Johnson, D.G., 2002, "The WTO and Agriculture in China," *China Economic Review*, Vol. 11(4), pp. 402-4.
- Krause, Lawrence B., and Sueo Sekiguchi, 1976, "Japan and the World Economy" in *Asia's New Giant: How the Japanese Economy Works*, ed. by Hugh and Henry Rosovsky (Washington, DC: Brookings Institution).
- Lardy, N.R., 1991, *Foreign Trade and Economic Reform in China, 1978-1990*, (Cambridge: Cambridge University Press).
- , 2002, *Integrating China into the World Economy*, (Washington, DC: Brookings Institution).
- Li, David, and Changqi Li, 2000, "Impacts of WTO Accession: Evidence Around the World," Hong Kong University of Science and Technology.
- Loungani, Prakash, 2002, "Comrades or Competitors? Trade Links Between China and Other East Asian Countries," *Finance and Development*, Vol. 37(2), pp.1-5.
- Makin, John H. 1997, "Two New Paradigms," *Economic Outlook*, American Enterprise Institute, October.
- Martin, Will, 2001, "State Trading and China's Agricultural Import Policy," World Bank Development Research Group (Washington, DC: World Bank).
- Mattoo, Aaditya, 2002, "China's Accession to the WTO: The Services Dimension," (Washington, DC: World Bank).
- McDougall, R.A., A. Elbehri and T.P. Truong , eds., 1998, *Global Trade, Assistance and Protection: The GTAP 4 Database*, Center for Global Trade Analysis (West Lafayette, IN: Purdue University).
- McKibbin, Warwick, and Wing Thye Woo, forthcoming, "The Consequences of China's WTO Accession on Its Neighbors," *Asian Economic Papers*.
- Organization for Economic Cooperation and Development, 2001. *Summary of Studies of the Impact of WTO on China's Trade*, CCNM/CHINA (2001)3 (Paris: OECD).

- Parker, S., and Lee, S.H., 2000, "Assessing East Asian Export Performance and Technology Upgrading from 1980–1996: Did East-Asian Developing Economies Lose Competitiveness in the Pre-crisis 1990s?" Asian Development Bank Institute, Tokyo.
- Rees, Lucy and Rod Tyers, 2002, "Trade Reforms in the Short Run: China's WTO Accession," Working Papers in Economics and Econometrics, No. 423, Faculty of Economics and Commerce, Australian National University, Canberra.
- Sumiya, Mikio, 2000, *A History of Japanese Trade and Industry Policy*, (Oxford and New York: Oxford University Press).
- Supachai Panitchpakdi, and Mark L. Clifford, 2002, *China and the WTO: Changing China, Changing World Trade* (Singapore: John Wiley & Sons (Asia)).
- Tan, Cliff, 2001, "Asian Economies: Outlook and Strategy: WTO Entry: China's Boon, Asia's Bane?" June, Hong Kong.
- Tseng, Wanda, and Harm Zebregs, 2003, "Foreign Direct Investment in China: Some Lessons for Other Countries," IMF Policy Discussion Paper No. 02/03 (Washington, DC: International Monetary Fund).
- Walmsley, Terry, Thomas Hertel, and Elena Ianchovichina, 2001, "Assessing the Impact of China's WTO Accession on Foreign Ownership," paper presented at the Fourth Annual Conference on Global Economic Analysis, Purdue University, West Lafayette, IN, June 27–29.
- Wang, Zhi, 2001, "The Impact of China's WTO Accession on Trade and Economic Relations Across the Taiwan Strait," *Economics of Transition*, Vol. 9(30), pp. 743–85.
- "When China and India Go Down Together," 1997, *Economist*, Vol. 345 (22), p. 41.
- Yang, Yongzheng, 2000a, "Export Competition in Asia and the Role of China," in *World Trade and Developing Countries*, ed. by Adhikari and Athukorala (Cheltenham: Edward Elgar Publishing, Ltd.).
- , 2002b, "Entering the WTO: China Is Coming Out," (Washington, DC: International Monetary Fund).
- , and David Vines, 2000, "The Fallacy of Composition and the Terms of Trade of Newly Industrializing Countries," paper presented at a seminar in the Department of Economics, University of Oxford, November 9 (revised).
- Yoshitomi, Masaru, 2003, *Post-Crisis Development Paradigms in Asia* (Manila: Asian Development Bank), Chapter 3.