16. International Trade

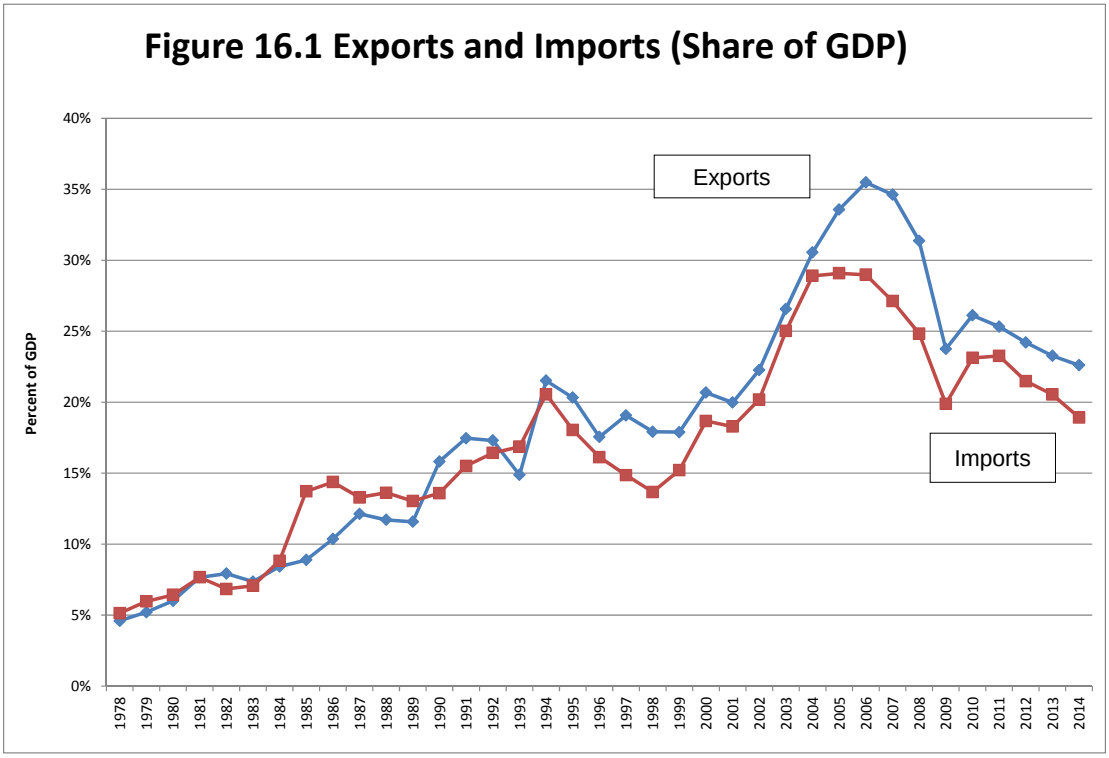
Over forty years, China transformed from economic isolation to become the world's biggest trading nation. China became the world's largest exporter in 2009, surpassing Germany, and the world's largest trader in 2012, as total trade (exports plus imports) surpassed U.S. China has now achieved a degree of openness that is exceptional for a large, continental economy. At its peak in 2006, China's total goods trade (exports plus imports) amounted to 65% of GDP, far higher in that year than the US (21%), Japan (28%), India (32%) or Brazil (21%). Since 2006, trade has ebbed as a share of China's rapidly growing GDP—and risen in India and Japan—but there is no doubt that trade will continue to be a crucial dynamic sector driving China's growth and modernization.

Basic economics teaches that countries benefit from trade. Economies with different factor endowments gain when they can trade with each other. With trade, economies tend to export products that intensively use their abundant factors of production and import goods that intensively use their scarce factors of production. China provides abundant evidence of this general principal. China's labor-rich and land-poor economy benefited enormously from the opening to trade after the 1970s that unleashed a flood of labor-intensive exports (clothing, shoes and toys), while enabling the import of essential food and raw materials. As integration deepened, China was able to import sophisticated machinery that was capital and technology-intensive. China's rapid growth would have been inconceivable without this trade. Exporting enabled the labor-intensive manufacturing sector to expand more rapidly than any other part of the Chinese economy between 1978 and 1995 (Chapter 14), generating employment and income; while imported supplies of raw materials and embedded technology enabled China to rapidly cut costs and improve efficiency.

Even these enormous gains do not exhaust the benefit of trade to China. Trade liberalization has been an integral part of China's economic reform process since the beginning. After years of trade growth, a new phase of trade policy reform began when China entered the World Trade Organization (WTO), on December 11, 2001, which also symbolized China's coming of age as a participant in the global economic community. An enormous systemic transformation was necessary to convert China from one of the world's most economically isolated economies into a global economic player. International "opening" and domestic economic reform were complementary processes that are often paired in a single term to describe the post–1978 period: "Reform and Opening" (gaige kaifang). This chapter traces both the quantitative growth of trade and the institutional changes that made it possible.

In today's global economy, trade and investment are increasingly closely linked. In China as well, the growth of trade was driven by foreign investment that was itself part of East Asia–wide economic restructuring (see Chapter 17). The package and sequence of liberalization policies that China followed was adapted to the opportunities that China faced. China developed close relations with existing exporters in Hong Kong and Taiwan, and crafted a dualistic trade regime, which enabled China to adopt relatively liberal rules on export-processing trade while still protecting domestic markets. These rules enabled China to accommodate the

wishes of foreign investors and helped bring China into increasingly integrated cross-border production networks. The growth and distinctive structure of these networks makes it easier to understand all of the other characteristics of China's trade. We examine the key characteristics of China's trade in three dimensions: commodity composition; technological sophistication; and international partner composition. The chapter concludes with some observations about China's impact on global trade and growth.



16.1 BACKGROUND

16.1.1 Early Days

In the early days of the People's Republic of China, from 1949 through 1960, China dramatically re-oriented its trade away from the Pacific and towards the Soviet Union. Although the traditional Pacific trade was shut down, China remained open to trade and aid, now coming almost entirely from the Soviet bloc. More than two-thirds of China's trade between 1952 and 1960 was with Communist Party–led countries, and 48% was with the Soviet Union alone. Trade was a leading sector in China's economic transformation, with total trade growing to about 12% of GDP in 1955. China imported industrial materials such as steel and diesel fuel, as well as machinery, most crucially the complete industrial plants that were the centerpiece of China's first Five-Year Plan (1953–1957; see Chapter 3). China exported textiles and processed foods, and the Soviet Union extended credit that supported moderate Chinese deficits. The GLF (1958–1960) at first encouraged further growth in trade with the socialist countries, as China's frenzied investment drive increased its demand for imported machinery.

16.1.2 Economic Isolationism

The economic crisis and famine that followed the collapse of the GLF led to dramatic changes in every aspect of China's economy. China began a long, slow retreat into international economic isolation. Trade did not grow at all between 1959 and 1970: exports were exactly the same in 1970 as in 1959 ($2.26 billion). Imports of industrial goods were curtailed sharply in the immediate post-Leap crisis, and scarce foreign exchange was diverted to desperately needed grain imports. The early 1970s were thus the low point of China's relations with the world economy, as imports and exports together were only 5% of GDP in 1970 and 1971.

16.1.2.1 Self-sufficiency policies

China's policies were the proximate cause of economic isolation. The break with the Soviet Union after 1960 meant the virtual end of trading relations with China's biggest trade partner. Imports from the Soviet Union dropped sharply, and by 1970 trade with the Soviet Union accounted for only 1% of total Chinese trade. At the same time, relations with the West remained distant and on occasion threatening. China was on a war footing through 1971 and intentionally encouraged regional self-sufficiency within China as well as internationally. The foreign trade system provided insulation from world market forces.

16.1.2.2 Scarcity of export commodities

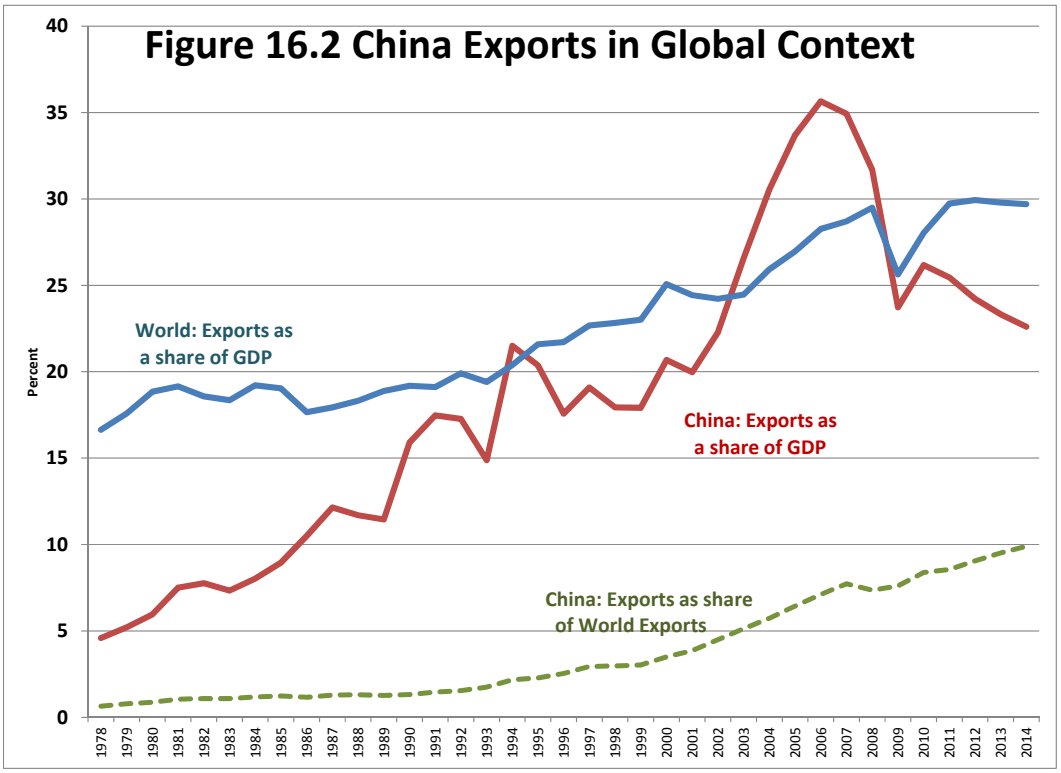
In a sense, the policy of self-reliance was making a virtue out of necessity, since China had little to export during this period. In the wake of the Great Leap Forward, China's households were perilously close to the subsistence margin, and the food and light consumer goods that China had previously exported were now in short supply domestically. Scarce foreign exchange was used to import grain from Canada, Australia and Argentina, while the remaining foreign exchange available had to be carefully husbanded to enable the import of a few critical industrial materials, including petroleum and steel. The output from China's new heavy industries was not good enough quality to find foreign markets. In any case, pre-occupied with the Cultural Revolution, China had little information on foreign markets. A quarter of China's exports went to tiny Hong Kong, the largest market. Cut off from its supplies of Soviet technology, China made do with a few small, selective purchases from new technology suppliers in Japan and Europe.

16.1.2.3 Recovery and the emergence from isolation

From the mid–1970s the economy began to recover from the worst of the Cultural Revolution. Supplies of light consumer manufactures (especially textiles) began to increase and become available for export. Even more important, petroleum output from China's main field at Daqing began to increase rapidly, and export of oil began. It was obvious that China could reap substantial gains from re-engaging with world markets. But how would this be done? As foreign-exchange earnings began to increase, China rapidly stepped up its technology purchases from the West and Japan. Fertilizer plants and steel mills were at the front of the queue of desperately needed technology items. These trading relationships seemed set to continue growing, and ambitious technology-import programs multiplied in 1977–1978. But when oil-field development programs fell through, it was unclear where the foreign currency needed to pay for the imports would come from. China for the first time was forced to confront the inherent problems created by its command- economy trading system. Driven initially by a serious short-run foreign exchange crisis, China began to systematically open its economy.

16.1.3 China's Emergence as a Trade Power

From 1978, China began a remarkable 30-year process of economic opening. The results are displayed graphically in Figures 16.1 and 16.2. As shown in 16.1, trade responded quickly to policy reforms at the end of the 1970s and grew at a sustained rapid pace. By 2001-2, both exports and imports had increased their share of GDP from 5% to 20%, transforming China's economy in the process. Even given this performance, what happened next was remarkable: China's trade growth *accelerated* after 2002, in the wake of WTO membership and successful reforms. Exports soared to 35% of GDP in 2006-7, outpacing imports and opening up a really large merchandise trade surplus for the first time (7% of GDP from 2006 through 2008). Figure 16.2 shows that by 2001-2 China had just caught up with average world levels of trade openness (as measured by the export/GDP ratio). Then, after 2002, it soared ahead, becoming substantially more open than the world average, a remarkable outcome, given China's large size and continental character (usually associated with lower trade ratios). Since 2007, China's trade ratios have dropped substantially, at first quickly and then more gradually. Indeed, they have returned to approximately where they were in 2001-2, and China's merchandise trade surpluses declined to below 3% of GDP after 2010. Figure 16.2 sheds additional light on these changes. China's export ratio has indeed dropped back down below the world average (perhaps to a more predictable place for a large continental economy). However, it may be surprising to see that China's share of world exports has continued to inch upward (shown by the dashed green line). The explanation is this: Since the Global Financial Crisis of 2008-9, world trade has grown slowly and China's trade has also grown more slowly (but slightly faster than the rest of world exports). However, for the rest of the world, GDP growth has also slowed dramatically so exports/GDP ratio has been stable; while Chinese GDP growth has been maintained at a moderately rapid rate, and so exports as a share of GDP have declined.



16.2 REFORMING THE TRADE SYSTEM

16.2.1 The Challenge

The foreign-trade system that Chinese leaders sought to reform in the late 1970s was an integral part of China's economic isolationism, but also in most respects a typical Soviet-style command-economy model. The domestic economy was rigorously separated from the world economy by what we might term a "double air lock" that controlled flows of both goods and money. The first "air lock" was the centrally controlled foreign-trade monopoly. Twelve national foreign-trade companies (FTCs) exercised monopolies over both imports and exports. Only authorized goods were allowed to pass through this layer of control. A second "air lock" was the foreign-exchange system. The value of the Chinese currency (the renminbi, RMB, or yuan) was set arbitrarily, and it was not convertible. Individuals had no ability to exchange renminbi for foreign currency without special authorization, which was very difficult to get. Overlapping, redundant controls covered the flows of both goods and money. The only way to navigate this tangle of administrative controls was to be included in the foreign-trade plan.

The "double air lock" system was designed to insulate the domestic economy from the world economy while allowing a few key commodities to pass through the air locks. The FTCs bought and sold domestic commodities at planned prices, and world commodities at world prices. When imports passed through the air lock, they were repriced in accordance with domestic planned prices, and the FTCs regularly cross-subsidized money-losing products with revenues from profitable ones. The socialist price system was thus completely insulated from the influence of world prices. As discussed in Chapters 3 and 18, socialist prices were set so as to privilege the state-owned industrial system. Low-relative agricultural prices and high industrial prices were used to concentrate profits in state-owned factories, where they could be harvested for the government budget. If world market forces had been allowed to affect domestic prices, they would have gradually eroded the socialist price system and the government's traditional institutions for mobilizing resources. The socialist price system is an extreme version of the price relationships created by the common "import substitution industrialization" (ISI) development strategy. In ISI strategies, developing countries erect barriers against industrial imports, thereby protecting their new industries and (they hope) fostering industrialization. In China as well, one of the functions of the traditional foreign trade system was to protect state-owned industries.

Given this system of control, foreign trade served the interests of China's planners, who had simple preferences. The purpose of foreign trade was to import goods that could not be produced by Chinese firms and that would resolve domestic shortages or bottlenecks (food or raw materials) or bring in modern technology (embodied in industrial machinery). Exports were viewed as a sort of necessary evil, required because exporting was the only way to pay for imports. If goods were "not needed" for the domestic economy, they could be exported, but the cost of producing export goods was largely irrelevant, while the import of nonessential goods was severely restricted. When Chinese planners stepped up the pace of technology import in 1978–1979, they quickly overshot their supply of foreign exchange. Foreign-exchange reserves, small to begin with, melted away at alarming speed. Foreign-trade reforms then began with an urgent attempt to increase and diversify sources of foreign exchange. Luckily, China was

surrounded by dynamic, export-oriented market economies, including Hong Kong. China turned to these dynamics neighbors as it sought to begin opening up.

16.2.2 Initial Reform Steps

Rather than tackle the enormous task of transforming the whole foreign-trade system, Chinese policy-makers initially took modest but innovative steps to open up new trade channels in the southern provinces of Guangdong and Fujian in 1978–1979. The objective was to make use of the proximity of these provinces to Hong Kong and, to a lesser extent, Taiwan. At this time, Guangdong Province was only a second-tier player in China's foreign trade, accounting for one-seventh of China's export revenues in 1978. Neighboring Hong Kong, however, was already a huge trading power. In fact, tiny Hong Kong exported as much as all of mainland China at this time. China's first step in opening came in 1978 when Hong Kong businesses were allowed to sign "export-processing" (EP) contracts with Chinese firms in the Pearl River Delta. A Hong Kong firm would ship (for example) fabric to a Chinese rural firm and have it sewn into shirts. The Chinese firm would be paid a processing fee, while the fabric and shirts would be owned by the Hong Kong firm at all times, so they did not have to pass through the foreign-trade system "air locks" at all. In this way, the export production network already created by Hong Kong could expand into China, but Chinese industrial firms were not exposed to import competition (since it was required that the goods produced be exported).

Shortly thereafter four Special Economic Zones (SEZs) were set up in Guangdong and Fujian. The SEZs—described more fully in Chapter 17—provided a secure footprint for the expansion of EP trade. Like other Export-Processing Zones (EPZs), the SEZs allowed imports in duty-free, as long as they were used in the zone to produce exports. As in other developing countries, policies like the SEZs and export processing allowed China to selectively promote exports, alongside what was still primarily a system of import substitution industrialization. The zones were enclaves that did not overly threaten the system of domestic protection. The provinces of Guangdong and Fujian were also given special powers within the existing foreign trade system. The provincial divisions of national FTCs were granted autonomy, as well as the right to retain foreign- exchange income they generated. Provincial authorities developed strong incentives to expand trade, and officials in both provinces became well known for their willingness to bend rules to facilitate trade. The special provisions, the incentives, and—above all—the proximity of Hong Kong fundamentally transformed Guangdong Province and made it into an export powerhouse. For the next 15 years, exports from Guangdong and Fujian grew twice as rapidly as those from the rest of China. Those provinces were fundamentally trans-formed from economic backwaters into crucial nodes in the global trade economy. Moreover, as we will see later, these two key early steps—reliance on Hong Kong as an intermediary and the importance of EP trade—have continued to shape China's trade development in important respects.

16.2.3 Liberalizing the Foreign-Trade System

By the mid–1980s, having created some initial breaches in the traditional system in Guangdong and Fujian, Chinese policy-makers began the task of liberalizing the main national trading system. Despite some occasional missteps (imports surged more than 50% in 1985), between 1984 and 1986, reformists had created a provisional modified trade system. There were four key elements: (a) setting a realistic exchange rate; (b) de-monopolizing the trading system; (c)

liberalizing import prices; and (d) setting up a normal tariff system. Within a few years they had transformed the rules for trade, largely dismantled the old foreign-trade monopoly, and created a framework for the subsequent growth of trade and investment. The policy stages in this transformation are worth noting:

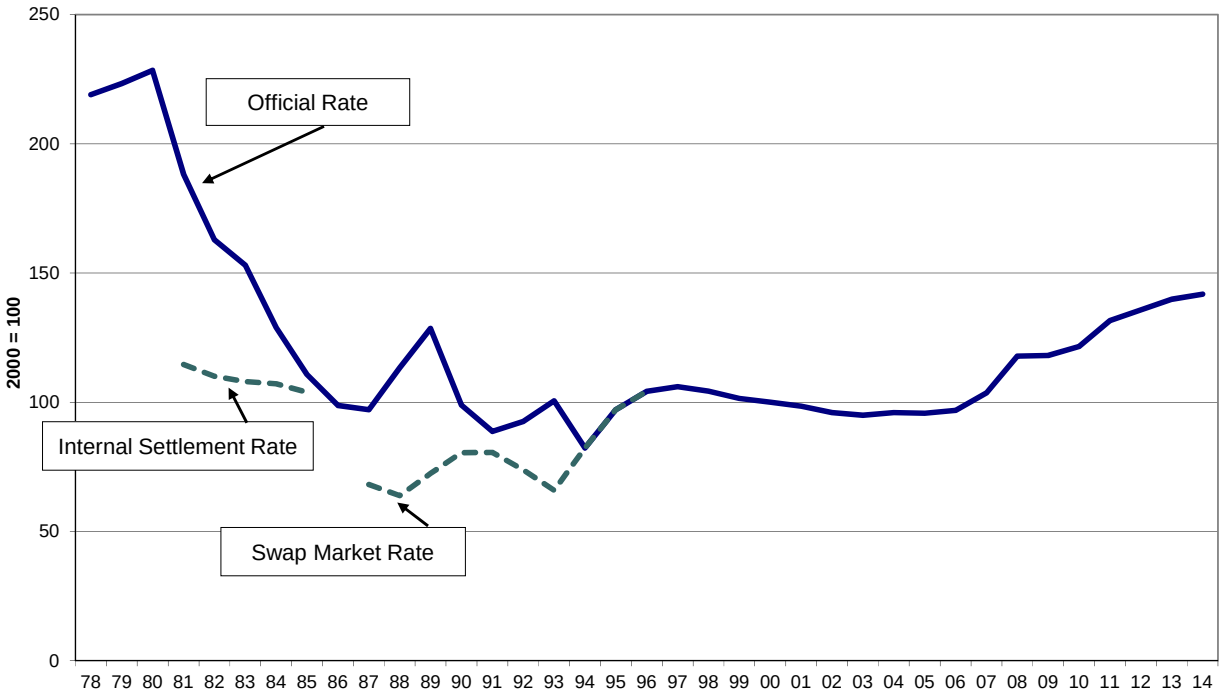
a. Devaluation. A realistic currency value is a prerequisite for successful trade reform. Before reform, China—like most socialist and ISI economies—maintained an overvalued currency. In 1980, the official rate was 1.5 Chinese yuan to the U.S. dollar; at this rate it was generally not profitable to export. Trade liberalization could not take place because at this unrealistic exchange rate, no company could make money exporting, while the demand for "cheap" foreign exchange to import was enormous. Figure 16.3 shows that by 1986 the official exchange rate for the RMB had declined by 57% in real terms against the dollar.[1] Figure 16.3 also shows that on the way to devaluation, Chinese policy-makers twice introduced dual exchange rate systems. The first time, between 1981 and 1985, an "internal settlement rate," made it profitable for trade companies *within* the foreign trade monopoly to export. The second time, policy-makers created a "swap market"—a lightly regulated secondary market—where exporters outside the foreign trade system could sell their foreign-exchange earnings. In this market, dollars went for a higher price, thus contributing to a further, market-driven devaluation of the yuan. These dual exchange rate systems were examples of the "dual track" reform strategy applied to foreign trade.

In 1994, a further stage of reform further devalued the official rate and unified it with the swap market rate at 8.6 to the dollar. For the unified rate to be meaningful, access to foreign exchange had to be liberalized, and in fact the currency was made convertible on the current account at that time.[2] This brought the overall and official rates to their lowest level in the reform era: markets for foreign exchange stabilized and exports and imports both jumped (Figure 16.1). Subsequently, the exchange rate remained essentially pegged to the dollar, remaining at 8.27 through mid-2005. Changes in real rates between 1994 and 2005 were due entirely to differences in domestic exchange rates (later changes are discussed below).

[1] The real exchange rate adjusts for inflation in both economies, using the CPI in China and the GDP deflator in the US. Note that changes in the currency value affect the calculations of openness reported earlier in this chapter. Devaluation makes an economy appear more open because the value of the GDP denominator (measured in domestic currency units) declines relative to the trade numerator (measured in dollars). Focusing on the RMB exchange rate with the US dollar does not, however, account for changes in the value of the dollar relative to other world currencies.

[2] Convertible on the current account means that anyone with a verifiable transaction on the current account (i.e., export, import, service transaction or profit/interest payments) can purchase foreign exchange on the basis of that approved transaction.

Fig. 16.3 Real Dollar Value of the Renminbi (2000 = 100)



b. Demonopolization of the Foreign-Trade Regime. The number of companies authorized to engage in foreign trade was allowed to expand dramatically. Industrial ministries were allowed to set up FTCs; the provincial branches of the former national foreign trade monopolies became independent; and many local governments and SEZs set up trading companies. By 1988, there were 5,000 FTCs, every single one of which was state owned. Direct export and import rights were also granted to some 10,000 manufacturing enterprises. Exports were liberalized much more rapidly than imports: thousands of firms were competing to produce manufactured exports while domestic markets still remained sheltered from import competition. Equally importantly, there was a steady shift away from the trade plan and in the direction of financial incentives. The old export procurement plan was abandoned in 1988. Foreign-exchange targets and contracting systems similar to those used in industry were applied to FTCs (see Chapter 13). Provinces contracted to make fixed annual payments of foreign exchange to the central government and retained all foreign exchange earned above the contract.

c. Liberalizing Prices. World prices were gradually allowed to influence domestic prices. On the export side, competing FTCs became much more cost sensitive: exporting predominantly on their own account, FTCs recontracted with domestic enterprises in a range of forms—industrial sub-contracting, enterprise groups, batch processing—in an effort to lower costs. FTCs sought out cheap producers of labor-intensive goods, which were often TVEs. The share of exports produced by TVEs increased rapidly, accounting for one-fifth of procurements by FTCs by the

mid–1990s. On the import side, the system steadily adapted to transmit world price signals through to the domestic economy. Imports began to be priced according to the agency system, in which domestic prices equal the world price plus a commission paid to the importer, instead of assigning a domestic planned price equivalent. Stronger incentives pushed trading companies to adapt to opportunities that were increasingly shaped by world prices.

d. A System of Tariffs and Nontariff Barriers. Chinese reformers proceeded cautiously. They were wary of making mistakes, afraid of import surges, trade deficits, and hard currency debt. Therefore, even as reformers dismantled the planned trade system, they erected high tariff walls and substantial nontariff barriers to maintain a degree of protection of the domestic market. Under the old air lock system, tariffs had existed but had been irrelevant, because the FTCs would carry out the trade plan and revenues and tax payments were redistributed later as necessary. In the early 1980s, a new tariff system was introduced which set high tariffs for the next two decades. According to the analysis in World Bank (1994, 56), China's tariffs were similar to other highly protected developing countries. The unweighted mean tariff was 43%, and the trade-weighted mean tariff was 32% (the same as Brazil at that time). Equally important were nontariff barriers (NTBs). The same World Bank study found that 51% of imports were subject to one or more of four different overlapping nontariff barriers. Indeed, NTBs and tariffs were "used in a complementary fashion to achieve the government's objectives" (p. 67). For example, non-essential consumer goods had high tariffs, while consumer "essentials" were "canalized" to monopoly FTCs administered by the central government. Overall, the most important NTB was simply that import rights were primarily reserved for FTCs, all of which were state owned. Manufacturing enterprises sometimes had limited trading rights but were authorized to import only for their own production needs. Overall Chinese imports were regulated by a combination of tariffs, quotas, and administrative guidance exercised over state-owned trading companies.

After the mid–1980s, China had in place a system of high tariffs, multiple nontariff barriers, and abundant administrative discretion, a system in many ways typical of a developing country pursuing an ISI strategy. This was far better than the previous planned system. Steady reforms created an essential minimum of flexibility that allowed access by new exporters and transmitted world prices to the economy. But this partially reformed system was by no means liberal enough in itself to create the dramatic Chinese export success. Instead, the most important such measure was the creation of an entirely separate export-processing trading regime, which allowed exporters to simply bypass the old centralized foreign-trade monopoly.

16.3 A DUALIST TRADE REGIME: THE STRANGE CAREER OF EXPORT-PROCESSING TRADE

The early experiments with export-processing contracts that had begun in Guangdong Province as early as 1978 gradually grew into a fully blown export-processing regime. After 1986, recognizing the opportunities for China in the ongoing restructuring of Asian export production networks, Chinese policy-makers started supporting the "Coastal Development Strategy." All types of firms in the coastal provinces, including TVEs, were allowed to engage in processing and assembly contracts. Foreign investors began to move into China's coastal provinces on a large scale, and they were allowed to adopt a more flexible variant of export-processing contracts

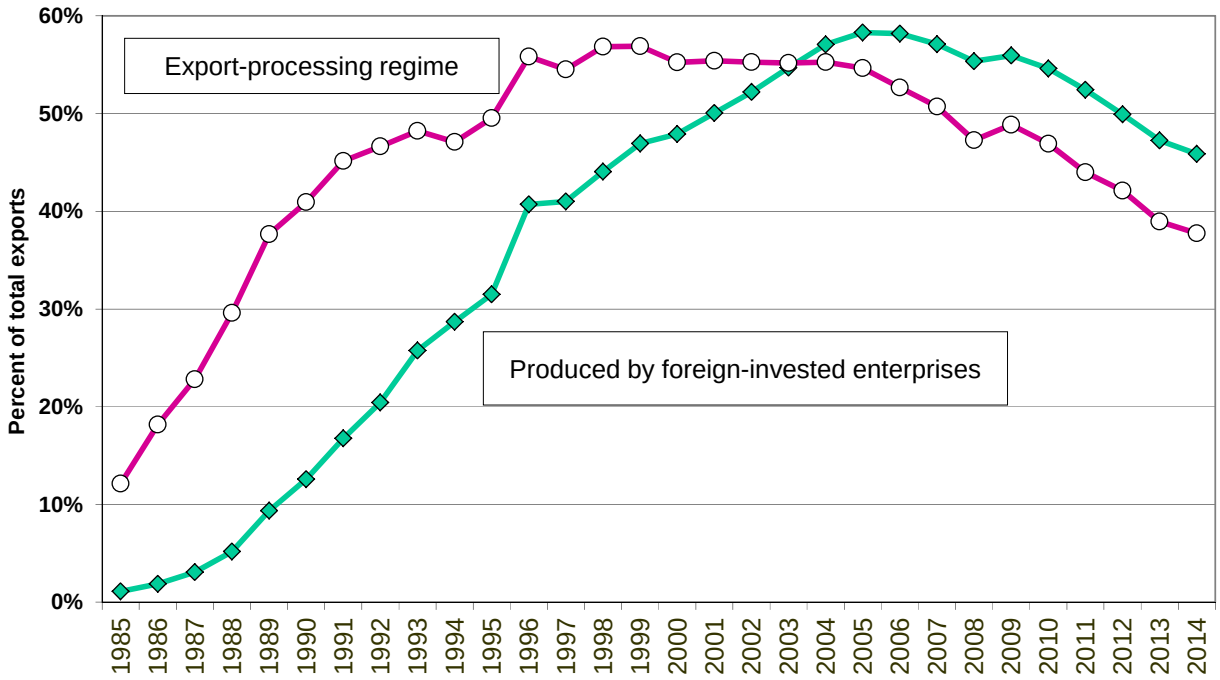
in which they took ownership of components and raw materials imported duty-free. By the late 1980s, China had established what were, in essence, two separate trading regimes. EP or export-promotion trade, responding to the extremely open regulations in which it developed, grew rapidly and soon surpassed "ordinary trade" (OT) in size, notwithstanding the significant reforms that had been made in the OT system.

These two trading systems exist to the present day. However, their functions and relative roles have changed in surprising ways. Originally introduced as a make-shift way to allow Hong Kong businesses to sew blue jeans with cheap Chinese labor, EP trade has morphed into a massive system that is an integral part of virtually all global high technology production networks, particularly electronics. None of the provisions of the Chinese EP regime were novel: All had their counterparts elsewhere in East Asia, and globally. Indeed, a strong precedent existed in the development strategy followed by East Asian forerunner economies. The Chinese OT regime, even after reform, resembled other ISI regimes in that the net impact of the system was to discourage exports. China therefore borrowed a page from the East Asian playbook and adopted selective measures of export promotion, designed to offset the antiexport bias for at least some products. What is unusual, however, is the sheer scale on which these provisions were introduced in China. In most countries such concessionary provisions are circumscribed within a designated and strictly policed EP zone. In essence, China created a gigantic EP zone throughout the entire coastal region. Although China's SEZs attracted a lot of attention, the boundaries of the export-processing regime actually extended far beyond the SEZs, to wherever an export-oriented firm was located.

16.3.1 The Rise and (Partial) Fall of the EP Regime

The exemption from duties on imported inputs provided a significant cost advantage to those in the EP regime. More important was that under the EP regime exporters—predominantly FIEs—were allowed to sidestep the entire complex and unwieldy apparatus of import controls, canalization, and regulatory monopolies that restricted development of trade under the OT regime. Given these advantages, EP trade grew much more rapidly than OT trade. Figure 16.4 shows the enormous difference these factors made. The EP regime and foreign-invested enterprises together were the motors of China's export expansion. Figure 16.4 shows that the contribution of EP trade climbed to 56% of total exports in 1996, accounting for 65% of the increased exports, after which the share leveled off until 2005. FIEs, the largest number of which are from Hong Kong and Taiwan, have almost automatic access to the EP system. Unlike virtually all domestic enterprises, FIEs were not required to go through state-run foreign-trade corporations (FTCs) to import. The association between the EP regime and FIEs meant that FIEs had a privileged status in the foreign trade system different from most domestic enterprises, particularly when combined with special tax concessions made to attract foreign investment (Chapter 17). FIEs inexorably increased their share of total exports in every year, starting from only 1% in 1985 and reaching 58% in 2005. From a small base, FIEs gradually became important players in China's export growth; and then between 1992 and 2005 they accounted for fully 63% of incremental exports. Clearly, the liberalization of the environment for foreign investment played a fundamental role in China's export success. The flip side of FIE export growth was the relatively less impressive performance of domestic firms. Ironically, domestic exporters had to wait for WTO membership to kick in before they could fully realize their export potential.

Figure 16.4 Share of Exports from Export-processing Regime and Foreign-invested Enterprises



Processing trade got a new lease on life after the turn of the century, because it was the preferred mode for businesses producing electronics hardware for export. Complex electronics goods like desktop and laptop computers, smartphones and telecommunications equipment were and are assembled in China's coastal regions. These products require large quantities of imported high tech components, particularly CPUs (central processing units) and other semiconductor products, as well as flat panel displays. Thus, the processing trade system was key to the integration of China's high tech economy with that of Taiwan, Korea and Japan, and the creation of triangular trade (described in Chapter 17).

Table 16.1: Chinese Exports: Share of Total by Firm Ownership

	1995	1997	2005	2011
State-owned Enterprises	66.7%	56.5%	22.2%	14.1%
Foreign-invested Enterprises	31.5%	40.8%	58.3%	52.4%
Private Domestic Firms	0.2%	0.4%	14.7%	33.5%
Collective and Other	1.5%	2.4%	4.8%	--

Source: *China Customs Statistics,* 1995:12; 1997:6; 2005:12 and General Administration of Customs

After 2005, the share of both EP exports and FIE exports began a long, slow steady decline. Of course, declining share is not the same thing as declining trade: EP exports in 2014 were double, in dollar terms, from what they had been in 2005. Moreover, a certain part of the declining share

of EP trade has been taken up by trade through Bonded Zones (special areas that are for legal purposes outside the domestic customs regime). These accounted for 7% of exports in 2014. Thus, while EP trade is no longer the driver of China's export expansion, it still constitutes one of the largest trading systems in the world, and it is still growing.

To a certain extent, the relative decline of EP trade is due to a feeling among Chinese policy-makers that Chinese domestic firms do not benefit adequately from EP trade. This was perhaps true in the early stages when EP trade was part of the package of preferential policies that attracted foreign investors, but today, when many of those preferences have been phased out, the prejudice seems to have persisted. EP firms are often described as being "stuck" in the low-value-added links of production chains, chains which moreover are "architected" by US high tech giants. It is empirically accurate that, particularly in electronics production networks, Chinese firms are typically concentrated in labor-intensive assembly stages (often described as "low value-added"). However, this concentration reflects China's factor endowment (at least until recently), and its extraordinarily rapid integration into these networks. It is not sufficient to ground a set of policy recommendations on trading systems.

The more important reason for the relative decline of EP trade is that in the wake of China's WTO membership, the overall trade environment has become far more open. We now turn to those changes.

16.4 WTO MEMBERSHIP AND STEPS TO AN OPEN ECONOMY

From the mid–1990s, building on the achievements in creating a functioning trading regime, China began to move in the direction of a genuinely open economy. Membership in the WTO was a powerful motivating factor. Reforms taken before WTO accession, in order to strengthen the case and prepare the economy for WTO membership, were nearly as important as those undertaken afterwards. The 1994 foreign-exchange reforms were part of the coordinated package of fiscal, financial, and trade reforms that were rolled out simultaneously at the end of 1993 and beginning of 1994 (Chapter 4). These unified the foreign exchange market and greatly liberalized access to foreign exchange. One of the advantages of policy coordination was that the national taxation system was shifted to a much larger reliance on value-added taxes (VAT). The rules of the WTO permit exporters to rebate VAT on exports. Initially the intention of reforms have been that China would move quickly to full currency convertibility, including the capital account, and establish a "managed float" for the Chinese currency. A flexible exchange rate would adjust to long-run changes in supply and demand for foreign exchange but the Central Bank would still intervene in the foreign exchange market to stabilize the currency. However, in the macroeconomic turbulence that followed the Asian Financial Crisis of 1997–1998, all Asian currencies, including the renminbi, came under intense downward pressure. The managed float gradually became a de facto fixed exchange rate vis-à-vis the U.S. dollar, and the Hong Kong dollar, which was already pegged against the U.S. dollar. When Chinese exports started to grow rapidly after 2002, the fixed exchange rate, lack of capital account convertibility, and relatively low value of the renminbi became significant diplomatic and economic issues between China and the United States.

16.4.1 World Trade Organization Membership

When China formally applied to rejoin the GATT (General Agreement on Trade and Tariffs, the forerunner of the WTO) in 1986, it seemed that it might be a quick and relatively painless process. After all, China was at that time a pioneer of market reforms and was looked upon in the West at least as favorably as Poland and Hungary, already GATT members. In fact it was not until 15 years later that China finally became the 143rd member of the WTO, on December 11, 2001. During those protracted negotiations, both China and the world trading institutions changed in fundamental ways.

One important reason for the lengthiness of the process, to be sure, was the shift in attitude toward China that occurred in the wake of the 1989 Tiananmen massacre and the dissolution of the Soviet Union the following January. After 1989 there was no longer a constituency for an "easy" entry by China into WTO. Even more important was the steady emergence of China as a serious export power. China was taken seriously as a competitive challenge, and antidumping actions against China had increased. At the same time, the frustrations of foreign companies dealing with China's relatively closed domestic market—one of the offshoots of the dualistic trading regime described earlier—had eroded support for giving China secure market access in developed-countries without a strict quid pro quo.

At the same time, the Uruguay Round negotiations that created the WTO in 1996 signaled a fundamental shift in the terms of global trade negotiations. Earlier agreements had been restricted to a clearly delineated "foreign- trade sector," but today are increasingly concerned with more fundamental systemic characteristics of the negotiating economies. In part, this shift came about because modern developed economies are now primarily service economies, and so international agreements understandably go beyond the former focus on internationally traded goods. Since services almost always involve some physical presence at the point of delivery, agreements about "trade in services" inevitably involve negotiations about regulation and investment conditions in the receiving, or importing, country. During the Uruguay Round itself, trade liberalization was achieved by a "Grand Bargain" between developing and developed countries: Developing countries got the promise of greater access for their light manufactures, especially textiles and agricultural products, including the elimination of textile import quotas, in developed-country markets. Developed countries got the promise of improved access for, and protection of, their corporations operating in developing-country economies. With this "Grand Bargain," the way was cleared for the creation of the WTO and the extension of trade negotiations into new areas relating to services, investment, and intellectual property rights. This was exactly the bargain that China was required to make as a condition for WTO membership: granting broader and fairer access to its economy in exchange for greater access for its light manufactured exports to other countries. The terms of this complex bargain involved a vastly more complicated negotiating process than initially anticipated.

On the trade side, the most fundamental issue from the beginning was the requirement that China open up the OT regime. Most important was China's commitment to extend trading rights without restrictions, including giving trading rights to domestic and foreign private companies. Eventually, these new provisions were included in a foreign-trade law effective July 1, 2004. Under this law the Chinese government no longer restricts trade to a limited number of state-owned FTCs, except in a few agricultural commodities where state trading is still permitted. In

those cases, China committed to a system of tariff-rate quotas (TRQs) for specific products, agreeing to lower tariffs up to a certain ceiling (after which higher tariffs kick in). The accession agreement specifically commits China to distribute a minimum share of the TRQ allocations to non- state traders. The commitment to a more accessible trade system was the most important component of WTO accession in the foreign-trade arena.

Next most important were commitments to lower tariffs. In fact, China began lowering tariffs in preparation for WTO membership immediately after the foreign- exchange reforms of 1994, well before the actual agreements were finalized. The average nominal tariff was reduced in stages from 43% in 1992 to 17% in 1999, the year when the breakthrough in WTO negotiations finally came. In the actual agreement, China agreed to lower average industrial tariffs to 9.4% by 2005, and this rate was actually achieved in 2004. The agreement lowered average agricultural tariffs to 15%, which was also easily achieved.

WTO accession was met with substantial anxiety by Chinese policy-makers and, to a certain extent, the Chinese public. There were worries about whether Chinese industries were competitive with sophisticated foreign firms, and whether Chinese agriculture could withstand an onslaught of imported food. These worries turned out to be unfounded. Chinese industry responded well to the competitive challenge of import liberalization, and even the automobile industry (focus of many fears) entered a golden age of expansion after WTO membership. Perhaps most striking is that far from being deluged by rapid import growth, the surge of China's exports in the wake of WTO membership changed China and the world. Without FTCs acting as gate-keepers to the world market, Chinese domestic firms seized the opportunity for rapid expansion (See Table 16.1).

16.5 COMPOSITION OF TRADE

Each stage of the liberalization of China's foreign-trade system has been associated with a surge in exports and imports. The result has been an extraordinarily diverse basked of export goods, combined with an import basket dominated by resources, intermediates and components.

16.5.1 Exports

After 1979 exports grew rapidly as existing opportunities were exploited more fully and the need to earn foreign exchange was given priority. At first exports grew rather indiscriminately: As late as 1985 petroleum was China's largest single export, accounting for 20% of export earnings. Fundamental changes in the composition of China's exports begin in 1985 as the systemic changes described in the previous section have an impact. Between 1985 and 1995, there was a dramatic shift to labor-intensive commodities and a correspondingly large decline in natural-resource- based products. Indeed, it is one of the great paradoxes of China's foreign trade before liberalization that—despite China's obvious factor endowments—light, labor-intensive manufactures were a fairly modest proportion of China's exports. However, by 1995 all of China's top export commodities were labor-intensive manufactured goods, most strikingly textiles and garment exports, footwear, sporting goods and miscellaneous manufactures.

The renewed liberalization of the trading regime signaled by WTO accession led to a renewed surge in China's trade. Significantly, this trade surge was associated with a dramatic increase in the share of machinery and electronics, the share of which increased steadily from 22% in 1995 to 48% in 2013. At the same time, growth of (now traditional) labor-intensive manufactures, and particularly garments, has remained robust. Aided by the end of textile import quotas in 2004, production and exports shifted to China. Overall, the composition of China's exports first shifted to include much more labor-intensive manufactures, and then deepened to include manufactures that are much more capital and technology-intensive manufactures. This has left China exporting an extraordinarily broad range of manufactures, an export composition more typical of a developed country (Rodrik 2006). At the same time, the export bundle has shifted to reflect China's (changing) factor endowment: initially increased openness led to better incorporation of China's abundant labor endowment, as development continued China (with the help of further reforms) transitioned remarkably smoothly to exports embodied increasing capital and technology. The most important exports and imports are shown in Table 16.2.

Table 16.2 Top Import and Export Categories 2013 (Billion USD)

	Imports	% Total		**Exports**	% Total
Petroleum and Products	251.6	12.9%	Computers, Components, LCDs	218.1	9.9%
Semiconductors	231.3	11.9%	Clothing	177.1	8.0%
Agricultural Products	118.0	6.0%	Textiles	106.9	4.8%
Iron Ore	105.7	5.4%	Telephone Handsets	97.2	4.4%
Computer Components, LCDs	80.4	4.1%	Semiconductors	87.7	4.0%
Autos and Auto Parts	74.1	3.8%	Agricultural Products	67.1	3.0%
Plastic Raw Materials	49.1	2.5%	Steel Products	53.2	2.4%
Grain	45.6	2.3%	Furniture	51.8	2.3%
Copper	35.4	1.8%	Shoes	50.8	2.3%
Coal	29.0	1.5%	Plastic Products	35.3	1.6%

16.5.2 Imports.

Imports have continued to be concentrated in capital and technology intensive products. In the case of imports, it is the larger volume, rather than drastic changes in composition, that have increased China's gains from trade. Capital-intensive products have continued to account for about two-thirds of imports. In addition, closer inspection of those commodities indicates that many of them serve essentially as land substitutes, stretching China's limited land endowment. Examples include fertilizer, food grains, synthetic fiber materials, and iron ore, each of which is a major Chinese import. Imports are very concentrated on capital-intensive and skill-intensive commodities. Capital-intensive commodities are often heavy, process-technology industries: steel, chemicals, synthetic fibers, plastic raw materials. Skill-intensive commodities are generally machinery, transport machinery and electronics. By stage of production, two-thirds of China imports consist of raw materials and components, while two-thirds of China's exports are final goods.

Chinese trade overwhelmingly corresponds to comparative advantage principles, and is likely of enormous benefit to the Chinese domestic economy. China has substantial impact on world markets for a number of these commodity groups: copper, steel, fertilizer, and, increasingly, petroleum. These are areas where Chinese demand moves world markets.

16.5.3 Service Trade

China's service trade has grown, as a share of GDP, gradually over thirty years from 2% to 6% in 2013 (including both exports and imports). Nevertheless, China's service trade as a share of GDP is significantly less than world average (20%). The service trade has recently swung into deficit, of $118 billion in 2013, or 1.2% of GDP. Much of this is due to the surge in Chinese travel abroad. Travel makes up one-third of China's total services trade, a huge increase from essentially zero in the 1980s, and more than global averages. While the increase in Chinese travel is truly impressive, this also reveals how slow the growth of other types of service trade has been. Service trade liberalization has clearly lagged behind liberalization of goods trade.

16.6 TECHNOLOGICAL SOPHISTICATION

The rapid increase in China's export of electronics goods—and especially the export of laptop computers—is truly impressive. Does this trend mean that China is becoming a technology power? While the answer to this question is complex. If we look simply at the share of China's export in sectors classified as "high technology," the answer would be "yes." China is by far the world's largest exporter of "high technology" goods, and accounts for nearly all the increase in global high technology exports since the turn of the century. Thus, China seems at first to have an unusually diverse and unusually sophisticated export economy (Rodrik 2006; Schott 2008), Even for such a large economy, it's export composition seems initially to suggest that it is a technologically advanced large economy.

In fact, such conclusions are based on misleading data. In the first place, as discussed above, virtually all of the high-tech electronics goods that China exports are produced under the EP trading regime and more than 85% are produced by FIEs. Electronics production worldwide is carried out on the basis of global production networks, chains that link together production, research, and services that are carried out in many different countries. China is already an integral link in many of these production networks. But inspection of the actual products exported and the processes carried out in China reveals that China is overwhelmingly concentrated on the final assembly stage of production. This is a labor-intensive, medium-skilled activity, not a "high-tech" activity. Classification of China's exports by technological level can thus be extremely misleading, because while the final product is technologically sophisticated, the actual value-added in China is not (e.g., for a laptop computer). Indeed, from the standpoint of value-added in China, the activity is more usefully grouped with other labor-intensive products (such as garments and toys). Upward, Wang and Zheng (2013) find that electronics goods were the largest single contributor to Chinese manufactured exports, but had the lowest share of domestic value-added in export value (36%) of any sector.

The distinction between value-added in export production and gross value of exported commodities is an important one, on which much recent empirical work has been done (Koopman *et al*, 2010; 2012). For every economy, value-added in export production is less than the gross value of exports, but this difference seems to be especially large in China, probably due to the history of reliance on EP trade. Upward, Wang and Zheng (2013) find that the share of

domestic value-added in China's manufactured exports was 53% in 2003 and increased to 61% in 2006. While this is relatively low in international context (they assert), the growth rate is rapid. These adjustments influence our judgments of China's trade sophistication, diversity of exports, and degree of openness, in each case causing us to lower our estimate. However, the rapid pace of increase of domestic value-added indicates that China is rapidly climbing the ladder of sophistication. By the time our measures have been comprehensively improved, China may have already changed the patterns the measures are designed to analyze. The rapid increase in domestic value-added may be an indication of the benefits of participation in global production networks. Even if China starts off in "low value-added" stages of production, the cooperation might be a good way to facilitate technological borrowing, benefit from "learning by doing" and demonstration effects, and generate spill-overs for domestic firms.

16.7 TRADE PARTNERS

The pattern of China's trade partners also reflects the history described above. China runs huge trade deficits with Korea and Taiwan, and huge trade surpluses with the US, the EU, and Hong Kong. In the case of Hong Kong, the surpluses are a secondary phenomenon, matched by Hong Kong's surpluses with the US and EU. These flows reflect the patterns of import of components and sub-assemblies from Taiwan and Korea (and to a lesser extent, Japan), followed by assembly and re-export, primarily to developed country markets (including Japan). This "triangular" pattern is strongly characteristic of China's trade. It is a reflection of the close linkages between foreign direct investment and trade (since the firms in China producing these exports are often based in Taiwan or Korea). Specifically, it is a reflection of the rapid internationalization and geographic redistribution of production networks in the wake of China's adoption of the EP trading system.

	Exports to: Billion USD	Imports From: Billion USD	Trade Balance Billion USD
EU	356.0	211.2	144.8
US	324.5	122.2	202.4
Hong Kong	268.0	15.5	252.5
Japan	148.3	194.6	-46.3
Korea	82.9	162.7	-79.8
India	50.5	23.4	27.2
Russia	38.9	40.3	-1.4
Taiwan	35.1	124.9	-89.8
Australia	33.9	82.7	-48.8
Brazil	31.8	52.4	-20.5
Vietnam	29.1	11.1	18.0
Saudia Arabia	--	49.5	--

Table 16A China's Top Trade Partners 2011

16.8 ACCOMMODATING STRUCTURAL AND REGIONAL CHANGE

Growth of trade has accommodated the structural changes described in Chapters 5 and 6 of this volume. Rural-to-urban migration and industrialization have sometimes been local phenomenon, but to important extent they have been dominated by migration from interior provinces to the booming export manufacturing zones of the coast. The steady expansion of the export sector permitted the steady expansion of urban employment driving structural change.

Foreign trade understandably benefits the coastal regions of China, and the coastal provinces have grown significantly more rapidly than inland provinces on the strength of trade-related demand. Different coastal regions have, however, responded to the stimulus of trade opportunities in significantly different fashion. First, as expected, trade provided an enormous stimulus to the southern coastal provinces of Guangdong and Fujian. Table 16.3 shows that the share of China's total exports produced by Guangdong, Fujian, and Hainan (which was spun off from Guangdong Province in 1988) rose dramatically from 16% in 1978 to 46% during the mid–1990s. These provinces benefited the most from preferential policies during the 1980s, and from the growth of foreign investment and EP trade. Guangdong, in particular, was encouraged to take "one step ahead" of the rest of the economy and become an economic showcase—perhaps even to become a "Fifth Tiger," following the "Four Tigers," the newly industrialized economies of Korea, Taiwan, Hong Kong, and Singapore. During this initial period, the rise of the south coast eclipsed the growth of the region that had traditionally been China's richest and most sophisticated economic macroregion, the Lower Yangtze (Chapter 1). The Lower Yangtze—grew robustly in the 1980s but was not oriented toward foreign trade in the same way as the south coast. The Lower Yangtze's share of China's exports dropped substantially, from 34% in 1978 to only 21% in the mid–1990s.

Table 16.3 Regional Shares of China's Exports

	1978	1994-1998	2005	2013
Southeast	16%	46%	36%	36%
Lower Yangtze	34%	21%	38%	38%
Northeast / North Coast	39%	23%	19%	16%
Rest of China	11%	10%	7%	11%

Southeast: Guangdong, Fujian and Hainan
Lower Yangtze: Shanghai, Jiangsu and Zhejiang
NE/North Coast: Shandong, Beijing, Tianjin, Hebei, Liaoning, Jilin, and Heilongjiang

However, since the mid–1990s, the Lower Yangtze has begun its own dramatic process of trade-related growth. Powered by significant inflows of foreign investment (see Chapter 17), the Lower Yangtze has seen its share of Chinese exports increase significantly, climbing back above its previous high to 38% in 2005. The Southeast, by contrast, has experienced its share declining to 36% in 2005, although its exports have continued to grow at a pace that would be considered quite healthy for most economies. The northern regions have declined steadily in relative terms. Traditionally, the closely linked Northeast and North Coastal regions were a major force in China's trade. The northern regions exported a much more diversified set of

goods, including heavy industrial products and, of course, oil. During the early 1980s, the share of this region at first increased as oil from the northeast, sold at historically high international prices, made a substantial contribution to China's foreign-exchange earnings. But since the 1980s the north has been in relative decline, falling below 20% of total exports in 2003. In particular, the share of the three Northeast provinces slipped below 5%, and the region was in danger of becoming economically marginalized.

In 2005, about one-third of China's exports were produced in Guangdong (out of 38% for the Southeast as a whole), one-third in the Lower Yangtze, and one-third everywhere else. In 2013, the regional proportions were virtually the same as in 2005. Inland provinces had increased their share modestly, from 7% to 11%. The migration of exporters inland, in search of lower wages, seems to have had an effect. However, this increase came entirely at the expense of the Northeast and Northern Coast. Both the Lower Yangtze and Southeast China fully maintained their positions in China's export economy. Guangdong province is still the single largest exporting province, and the trade/GDP ratio for Guangdong is impressively high, at 178%, making it very similar to Malaysia, which has a trade/GDP ratio of 175%. The Lower Yangtze, rising rapidly, has trade/GDP around 90%, like the East Asia average (trade/GDP equals 81%). The "rest of China," with trade/GDP at 23%, is very similar to Brazil. There are dramatic differences in the degree of openness and of trade dependence among China's regions.

16.9 CONCLUSION

China has achieved trade success through a combination of domestic economic reform and restructuring, and an astute accommodation of the opportunities created by East Asian economic restructuring and foreign investment. It is an especially impressive achievement given how far China has come: From one of the most closed economies in the world, China has developed into the most open large economy in the world, and it has done so with a minimum of disruption and trade-related economic distress. How are we to understand a large, continental economy with "openness" sufficient to yield a trade-to-GDP ratio of 64%? First, we need to take account of the fact that trade is very unequally distributed within China. China is like an economic union of a very open coastal economy and a less integrated inland economy: like a union of Malaysia and Brazil, for example. Second, the very high trade/GDP ratios of economies like Malaysia or Thailand are achieved precisely because those countries are integral parts of cross-border global production networks (GPN), especially prominent in electronics. Those networks involve high-value items crossing borders, as trade, in order that relatively simple processing activities can be performed in different locations. This means that the value-added in the export sector is actually quite small relative to the value of the trade flows. Of course, this is exactly the kind of activity that the Chinese dualistic trade regime was designed to encourage in the first place. But this outcome reminds us that the trade/GDP ratio is an index of openness, not a measure of the size of the traded-goods sector. In fact, actual Chinese value added in the export sector is a smaller share of total national value added than might have been guessed just by taking clues from the trade/GDP ratio.

China's trade growth has enormous momentum. Since about 2005, wages of unskilled workers have climbed rapidly, and the cost competitiveness of labor-intensive manufactures has eroded. Moreover, the slowing global economy means that demand from developed countries can no longer be expected to grow as robustly as in the past. Therefore, foreign trade is unlikely to be as conspicuous a leading sector in the future as it was in the first decade of the century. Whereas between 2000 and 2007 net exports (exports minus imports) were growing steadily, adding to aggregate demand, since 2008 net exports have declined (with the shrinking trade surplus), thus making a net negative contribution to aggregate demand. These important structural changes will have enormous implications on China's trade growth in the future.

However, China continues to have strong trade competitiveness. Trade-related infrastructure in China is among the very best in the world (Chapter 1). WTO-related liberalization lowered transaction costs as well as import costs, as access to trading opportunities multiplied and was exploited. In the years since WTO accession a more open and integrated trade regime has propelled China to the front ranks of world traders. Further stages of integration with the world economy will bring substantial benefits to China. Because China's factor endowments vary so significantly from those of the developed countries, China has a lot to gain from globalization. Its labor-rich and land-scarce economy will continue to have large benefits from exchange based on comparative advantage, while its dynamic and relatively well-educated labor force can quickly absorb technology and skills by observing and imitating global best practice. China has more to gain from globalization than any other economy in the world, except perhaps the United States.

Sources for Data and Figures

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Figure 16.2: World Bank, World Development Indicators (WDI). WDI states that these data are for exports of goods and services. However, inspection of the data reveals that for China at least, only data on goods exports are included.

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