The Effect and Strategy of China's Trade Liberalization

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1. Introduction

The economic reforms that have been implemented in China since 1978, are of unquestioned magnitude and importance, affecting each aspect of China's society, contributing to rapid economic growth in the past decade and more. The reform of China's foreign trade, namely the so-called "open-door policy", has been moving far ahead of the reform of domestic policies. In large measure, trade reform in China progressed in a style that was generally gradual and experimental, reflecting the strategy of its overall approach to transformation towards market economics. In the 1980s, the program of trade reform was closely related to general decentralization characteristics. That is, administrative decentralization, rather than economic decentralization. Import liberalization has been much slower than decentralization of export activity during the same period. It was not until the early 1990s that China's policy-makers began to focus on an import regime, with trade policy moves towards greater liberalization. In comparison with other APEC member, China has remained highly protective. But it is little doubt that there has been remarkable achievements in China's trade liberalization process, especially since 1992.

This study attempts to examine both the extent and the consequence of China's trade liberalization. In addition, the effect of APEC trade liberalization on China's foreign trade is also investigated briefly. Two difficulties arise when assessing China's trade liberalization. One is related to the definition of trade liberalization. The absence of an agreed upon definition of trade liberalization makes it difficult to assess the extent to which it has occurred. If we think of liberalization as a process over time, combining a shift from inward-oriented to outward-looking polices plus a reduction in the degree of government intervention, then the process of China's trade liberalization will be well understood by dividing China's trade reform since 1978 into two phases. The first phase is viewed as the move towards liberalization based on the introduction of export incentives via reform of

the foreign trade system, which reduced bias against exports, although import restrictions remained the same or even increased. The latter phase is characterized by a reduction in the level of intervention, both in terms of instrument and design. Another difficulty is the lack of comprehensive materials and data, so selection of criterion for analysis in this study is somewhat arbitrary.

The study is organized as follows: The second section presents the dimensions of the changes in China's trade policy. A quantitative analysis for trade liberalization is provided in section 3. Using the results from section 3, a test of the effect of trade liberalization on China' economic growth is undertaken in section 4. In section 5, I examine the impact of the overall APEC trade liberalization on China's foreign trade within APEC. Finally, the policy implication and conclusion are drawn in section 6.

2. China's Foreign Trade Reform: The Phases of

Liberalization

Prior to adopting the open-door policy in 1978, China had actually pursued a typical comprehensive socialist development strategy, which was inward-looking and utilized import-substitution industrialization trade, and a development pattern that was common in developing countries in the 1950s. The fundamental feature of China's foreign trade system was an extremely restrictive attitude towards foreign economic relations. Ideological and political factor, therefore, played an overwhelming role in China's economic relations with foreign countries. Under the influence of an excessive self-reliance principle, China's foreign trade was very limited, to the extent that imports only made up for shortages in domestic production, such as essential raw materials and capital goods, while exports were only a means to provide foreign exchange for imports. As a result, China actually failed to make full use of foreign trade to accelerate economic development. One of the indicators of such failure was China's decreasing share in the total value of world trade from 1.4 percent in the 1950s, to 1.1 percent in the 1960s and 0.8 percent in the 1970s. Another characteristic was trade planning, which entailed not only formulating export and import plans, but also defining the role of China's Foreign Trade Corporations(FTCs). These FTCs were used as institutional vehicles to implement the import and export plans. Regarding the organization of foreign trade, the import and export plans were determined under the authority of the Ministry of Foreign Trade(now called the Ministry of Foreign Trade and Economic Cooperation(MOFTEC)). Once a plan had gone through the state's foreign trade approval procedures, FTCs were responsible for implementation. To ensure the insulation of the domestic market, the FTCs engaged in foreign trade by giving monopolistic powers. They purchased goods prespecified by the plan from domestic procedures, and sold all procured imports at officially established prices. Thus producers received none of the foreign exchange income from the sale of the goods abroad, nor did they have any indirect claim on that foreign exchange to purchase

goods abroad for their own use. Under such a system, the foreign allocation mechanism served to allocate foreign exchange among the various potential users, and determined the price at which foreign exchange was traded.

The strategy detailed above, which China carried on for almost 30 years, had created tremendous economic and political problems by the end of the 1970s. The economic consequences for China were numerous. For example, rigid central economic planning and monolithic public ownership depressed producers' enthusiasm for production and reduced economic efficiency, resulting in a continuing fall in economic growth[1] . Thus, traditional foreign trade regimes were becoming increasingly questuined by 1978.

Foreign trade reform was officially launched in December 1978 as an integral part of the overall economic reform program. Since then, China's economy has developed more and more in a market-oriented direction, moving from being an autarchic, inward-looking state, to being one of the major players in the international market. Moreover, China's approach to trade reform has been a clear reflection of its overall approach to the transformation of the economy: gradual changes, dualistic in nature, with parallel pricing, a focus on decentralization of administration and retention of ultimate controls at the centre. Looking back on the reforms of the past decade and so on, it is clear that trade reform and liberalization falls into two distinct episodes: the administrative decentralization of trade planning to lower levels, together with increased export through improvements in economic incentives from 1978 to 1991; and the first real moves towards trade

[1] The growth rates of GNP and nominal income fell from 11.3 percent and 8.9 percent in the First Five Year Plan period(1953-1957) to 0.4 percent and -3.1 percent in the Second Five Year Plan period(1958-1962). The period of 1963 to 1965 saw an increase in the growth rates of GNP and national income, 15.5 percent and 14.7 percent respectively. Since then, however, growth rates fell once again: the Third Five Year Plan peered(1966-1970) saw a decrease in the growth rates of GNP and national income, 9.3 percent and 8.3 percent respectively; the Fourth Five Year Plan period(1971-1975) witnessed a further decrease, 7.3 percent and 5.5 percent respectively.

liberalization over the period 1992 to 1995, and implementation of the APEC trade liberalization process since 1996.

2.1 The First Episode(1978-1991)

During the period of 1978 to 1991, China adopted a number of measures to reform its traditional foreign trade system. These reforms, including administrative decentralization of trade planning, foreign exchange retention, foreign trade contract responsibility system, adoption of a more realistic exchange rate and other measures that reduced the bias against exporting, were the most important instruments in Chinese economic reform. The fundamental objective of these reforms was not only to stimulate the growth of exports, but also to raise its role of exports in China's economic development.

2.1.1 Relaxation of Foreign Trade Authority

At the initial stage, one of the first step was to decentralize the authority to engage in foreign trade. To arouse the enthusiasm of localities and industrial departments towards exports, the central government gave them greater powers of export administration. The national FTCs lost their monopolistic powers and their provincial branches were allowed to become independent financial and operational bodies. Each province was permitted to create its own trade agencies and corporations to engage in direct trading of its products.

In July 1979, the law and regulation related to foreign investment was promulgated, and foreign-funded enterprises were given authority to import raw materials and capital goods for their production. These enterprises were also authorized to export their own products directly. A number of special zones, twenty-nine provinces, autonomous region and municipalities, and the cities of Guangzhou, Dalian, Wuhan, Xian, Shenyang, Harbin,

Chongqing, Qingdao and Hainan Island, were also permitted to open up ports for engaging in foreign trade. At the same time, the state established twenty five general export and import companies under the auspices of various industrial departments for specilialised trades, such as non-ferrous metals, electronics, shipping, petrochemicals and agricultural machinery. These companies were allowed to export directly a proportion of their products. The state also granted self-management powers to those large and medium scale export-oriented enterprises, and firms were authorized to export their products, and import the raw materials and intermediate inputs required for their production.

As a result, the number of export trade companies increased from 12 in 1978 to about 1200 in 1986, reaching a peak of 5075 in 1988. Such an approach to foreign trade system reform generated initial competition for export supply, and created the preconditions for later liberalization. However, this system still controlled trade through various administrative devices. This meant that the state could still use administrative instruments to control trade.

2.1.2 Reduction of Foreign Trade Planning

There was also a reduction in the scope of foreign trade planning, and the introduction of a "two-tier" system for the management and administration of foreign trade. The system of exclusively mandatory and advisory planning was replaced with a system of combined mandatory and advisory planning. Under the new system, the export plan was split into two components: the command plan and the guidance plan. The command plan was mandatory, fixed in quantitative terms, applied to specific products, and was accompanied by an assured supply of necessary input to the domestic enterprises. The guidance plan, in contrast, contained value targets assigned to provincial authorities, who were granted considerable flexibility in determining how they should be achieved. The import plan was split into three components: a mandatory plan for key raw materials, which were to be handled only by designated national and/or provincial FTCs; a system of

foreign exchange allocation for imported raw materials and spare parts for key established national projects and new investment projects with priorities; and an import licensing system. Depending on the type and category of export and import commodity, the central government organs were only in charge of a few important and internationally competitive commodities, while the local administrative organs took charge of the bulk of commodities with permits authorized by MOFTEC. The standards of examination and approval for the permit were rigorously enforced. The export plan covered 100 percent of exports in 1978. This fell to 45 percent in 1988, and 15 percent by the end of 1991. The imports covered by the import plan similarly fell to about 15 percent of total imports in 1992(Lardy,1992; World Bank,1993). From 1985 to 1989, continuing reform aimed at reducing administrative controls and gradually getting the government out of trade management. One indicator of this trend was the introduction of import licenses to replace direct plan controls on trade.

2.1.3 Export Incentives

In parallel with the above reforms, China also undertook several measures to promote exports. These measures are commonly observed in the early stages of trade liberalization in developing countries.

Foreign Exchange System Reform

Pre-1984, there existed dual exchange rates in China's foreign exchange regime: official and secondary. The official rate depreciated gradually under a system of managed floating while the secondary rate, termed the internal settlement rate, was used for settlement of payments between FTCs and the supplying enterprises, and was fixed at a more depreciated value. The main reason that China introduced a two-tier exchange rate structure was the belief that the country had a highly overvalued exchange rate in the pre-reform period. Due to Chinese currency--*renminbi*(RMB) remaining highly

overvalue, it yielded significant financial losses measured in the domestic currency value of most exports. To reduce the domestic currency losses of foreign trade, and to provide greater incentives for exporters, the state effectively cut the value of the RMB by almost half in 1981. The state introduced an internal settlement rate of 2.8 yuan to the dollar for trade transaction . Over the succeeding three years, the official exchange rate was progressively devalued, and in 1984 the rates were unified.

A dual exchange rate re-emerged in 1986 with the establishment of foreign exchange adjustment centers(FEACs or swap centers) at which approved enterprises were permitted to buy and sell retention quotas. Initially, the system was restrictive because the exchange rate was set by the authorities and participation was limited to foreign-funded enterprises. In 1988, as experience was gained, all enterprises with foreign exchange retention quotas were granted access to the centers. At the same time, the authorities lifted control of the swap market exchange rate, allowing it to be determined through negotiations between buyers and sellers. In December 1991, all domestic residents were allowed to sell foreign exchange, at the swap rate, through designated branches of banks.

With the new exchange arrangements of 1986, the official exchange rate was in effect pegged to the U.S. dollar. There were two devaluations in 1989(21 percent) and 1990(9 percent), and in 1991 small, frequent adjustments in the official rate were made.

The most essential component of the reform in the foreign exchange regime was the move in 1979 to decentralize the administration of foreign exchange earning. This involved allowing local authorities, department, and enterprises to retain a portion of the foreign exchange they earned. Historically, the state required exporters to turn over all of their foreign exchange receipts to the bank--Bank of China, in exchange for domestic currency, through a rigid system of exchange control. One feature of this system was that the localities and national FTCs could retain for their own use a proportion of the foreign exchange earned by their exports, but they must also had to give a certain proportion of

this foreign exchange to the enterprises that produced the export commodities. The original retention rates were relatively low. The state gradually adjusted the retention rates from 25 percent in 1984, to a higher rate with the range of 70 to 100 percent by 1988, in order to give greater incentives to some specified industries. In 1991, several modification were made to the retention scheme. A uniform retention rate was set throughout the country, with the exception of some special rates for certain sectors. In general, 20 percent went to the central authorities, and of the 80 percent retained, 10 percent was accounted to local government, 10 percent to the producing enterprises, and the remaining 60 percent to the foreign trade companies.

The reforms discussed above successfully closed the gap between the earners and users of foreign exchange, and played a positive role in expanding exports.

Foreign Trade Contract System

It was evident that the decentralization of trade authority to localities and enterprises, in and of itself, could not be relied on to increase exports significantly. In an attempt to prevent exports from being dumped abroad at a loss, and to limit government fiscal commitments, the government applied the contract responsibility system to foreign trade in 1987 for national FTCs. It was extended to provincial governments in 1991. The intention was to remove the open-ended commitment of the central government to subsidize exports on the one hand, and to relate domestic prices of exports increasingly to those being obtained on world markets on the other. In this case, each local authority and specialized national FTC signed a contract with MOFTEC. The contracts specified three targets: the amount of foreign exchange earnings; the amount of foreign exchange to be remitted to the central government; and a fixed amount of domestic currency that the central government would provide to subsidize losses on export sales. This measure was also the key instrument implemented to reduce the magnitude of export losses and grant overall responsibility for foreign trade activity. In December 1990, the State Council

announced that as of January 1991, trade contracts would not be allowed to contain provisions for direct subsidies on exports. This implied that exporters had to take and accept losses.

Export Rebate

Like many developing countries, China also designed tax instrument to promote exports. The most important measure was the export rebate introduced in 1985. The government rebated to producers a portion of the indirect taxes paid on export goods. One of the important features of China's domestic tax structure was that government relied heavily on indirect taxes to finance its expenditures. Thus the prices of export goods had a tax component that varied significantly depending on the stages in the production process. It was believed that rebates to the indirect taxes levied on exported goods would encourage exporters to compete with producers of other countries in international markets. The export rebate was also closely tied to the problem of the financial profitability of exports. China's enterprises suffered financial losses from exporting in the early 1980s. Thus it was an indirect means for government to subsidize the losses enterprises incurred on these exports.

In summary, the reform of China's foreign trade system in the first episode was along the line of decentralizing the foreign trade administration, granting greater management autonomy, making enterprises responsible for their own profit and losses, and increasing export incentives. Reform centred on administrative decentralization, not economic decentralization. However, these changes in China's foreign trade system created a favorable environment for trade reform started in 1992 in the direction of significant liberalization, which was consistent with international conventions. In comparison with the pace of domestic economic reform, reform of foreign trade in this phase had taken place rapidly.

2.2 The Second Episode(1992-1996)

Trade liberalization implies freeing the flows of trade between a country and its trade partners. Therefore, it is defined as any change which makes a country's trade system more neutral in the sense of bringing its economy closer to a situation in which there is no governmental intervention in the trade system(Pagageargiou, Michealy & Choksi, 1991). In practice, trade liberalization is basically associated with tariff reduction, non-tariff barrier removal and changes in accompanying policies.

In the early 1990s, the trade regime in China could be described as a so called "protected export promotion system"(Koves and Marer, 1991). That is, a system that simultaneously promoted exports via incentives, while offering significant domestic protection. This system also existed in South Korea and played an important role in its own export-led strategy. China's import regime has remained highly protective, in terms of both instrument and design. In 1992 China's unweighted average nominal tariff rates accounted to 43.1 percent(see Section 3). This was relatively high by international standards, with the third highest among large developing countries after India and Pakistan. This meant that the next stage of reforms would have to address this key instrument of protection.

The second round of China's foreign trade reforms began in 1992, and has accelerated since then. Thus, a more liberal trade system which is much closer to the international economic norms is gradually being established. These reforms have focussed more on the import regime. China's trade liberalization in the 1990s has, to a large extent, followed the approach mentioned above.

What is the likely reason for China adopting comprehensive reform towards real trade liberalization? I believe, it can be explained from three major aspects. First, it is a reflection of the overall economic reform strategy. In 1992, Party leaders called for the establishment of "a socialist market economy", with Deng himself promoting further

economic reforms. Therefore, the core role of market mechanism in China's economic system has been officially affirmed. Second, China has sought to rejoin the GATT/WTO[1] . As part of the preparations for rejoining, the government has begun the process of reducing tariffs, and reducing the amount of trade covered by mandatory planning and licenses. Third, it is related to bilateral relation with United States. That is, to response to pressure from the United States. One indicator is China's agreement(Memorandum of Understanding) with the United States signed in October 1991. According to this agreement, China's government commits itself to reducing its quantitative import restrictions. Thus, putting these two elements together, we can see that multilateral and bilateral pressures induced expanded trade liberalization in China over this period.

2.2.1 Tariffs Reduction

As noted above, in the early 1990s, China's import tariffs were as high as 140 percent or more on basic items such as tobacco products. The unweighted average protection rate for the whole economy in 1992 was 43.1 percent, the higher rates concentrated on finished consumer goods where the average rate was 65 percent(for more detailed information see Section 3). In short, China maintained a "tariff escalation" structure according to the stage of processing.

In 1992 China's government undertook further initiatives towards import liberalization. On January 1, 1992, import tariffs were reduced on 225 products from an average rate of 45 percent to 30 percent. In addition, China abolished import surcharges

[1] China had been an original signatory to the GATT in 1947, but the Nationalist Government in exile withdrew on behalf of China in 1950. The People's Republic of China regards this as an illegal act, and applied to "resume its seat" in the GATT in 1986. Negotiations were proceeding quite well until the Tiananmen Square event. In 1991 negotiations were resumed, but since then process has been very difficult. China attempted to force the issue by the end of 1993 so as to be an original member of WTO, but this failed. Presently, negotiations are still proceeding, and are reported to soon enter a critical stage.

of between 20 to 80 percent on 14 products in April 1992. China also announced in December 1992, that it had lowered tariffs by an average of 7.3 percent on an additional 3,371 items.

China announced late in 1993 that, effective January 1, 1994, it would reduce tariffs on 2818 items by an overall average of 8.8 percent. Included in these reductions were more than 200 agricultural and industrial items that were reduced by an overall average of 50 percent, with none lower than 35 percent. The commitment to reduce tariffs on these items was part of the 1991 market access Agreement with the United States.

Moreover, On 19 November, 1995, President Jiang Zemin announced at the APEC Summit at Osaka, that China would adopt a new round of tariff reduction in 1996. lowering the average tariff on 4,000 items from 35.9 percent to about 23 percent in terms of the overall unweighted average rate. These tariff reduction were implemented in advance, and as a part of China's broader trade liberalization commitment within APEC.

China also adopted a harmonized system for customs classification and statistics on January 1, 1992, bringing China's tariff system into conformity with international standards.

2.2.2 Non-Tariff Barrier Removal

The thrust of China's reform over the first period 1978—1991 was the promotion of exports while maintaining tight control on imports. The latter was implemented through a range of non-tariff barriers. These measures included a mandatory import plan, or canalization which is the term applied to the assignment of monopoly import rights to a particular FTC[1]; import licensing and controls. Although foreign trade reform in the 1980s

[1] This canalization serves three purposes: for planning imports; limiting such imports at times of

reduced the coverage of foreign trade planning, the use of canalization, licenses and other non-tariff barriers still provided high levels of protection to domestic industries. By 1992, there were 1247 items covered by import licensing, import quotas and other measures, accounting for 17.5 percent of the total (see Section 3). Of these, about 12 percent of imports were covered by import licensing, and 5.7 percent by other quantitative forms of control.

Since 1992, China has taken some important steps to gradually reduce its scope of the non-tariff barriers. In its agreement with the United States signed in 1992, China pledged to eliminate 90 percent of its non-tariff barriers over time. This will reduce the number of quantitative restrictions(QRs) from 1247 to 240 by the year 2000.

In January 1993, it was officially announced that all import substitution lists would be abolished[1]. The first set of import licensing requirements were lifted on December 31, 1993, reducing 53 products at the end of 1992 to 16 products by the end of 1994. These products included steel and a range of steel products, sugar, coffee, cassette radio recorders, black and white televisions and tubes, watches and a variety of production and assembly lines. By March 31, 1995, China had removed restrictions on 155 additional items, including agricultural products, beer and wine, tobacco, wood products, textile and apparel products, textile machinery, computers, air conditioners and refrigerators.

In all, China has adopted four phased removal of the bulk of existing import licenses and controls. In line with its commitment, China will extended up to 1997. It is estimated

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balance-of-payment shortage; and protecting certain industries, especially the heavy machinery, electronics, transport, and textiles sectors.

[1] In 1987, China implemented an import substitution list policy. Initially, more than 170 domestically made products were listed as import substitution, and were mainly distributed in industrial raw materials.

that as of April 1, 1996 non-tariff barriers in China covered no more than 6 percent of total items(see Section 3).

2.2.3 Accompanying Policy: The Reform of Exchange Rate Regime

Since April 1992, the RMB has depreciated markedly in the swap market. Despite continued small adjustments of the official rate, the spread between the official rate and the average swap rate had widened to about 45 percent by early 1993. The authorities introduced macroeconomic adjustment measures to cool off overheating. This included raising interest rates, controlling bank loans and restricting business investment in the real estate sector. As a result of these macroeconomic measures and intervention in the swap market transactions, the swap rate swung back to a level of around 8.5 yuan.

Furthermore, effective on 1 January 1994, a dual system of exchange rates was replaced by a unified exchange rate system, with a managed float against a basket of foreign currencies. This move allowed the official rate to be devalued 50 percent, to 9.7 yuan to the dollar, in line with the average rate prevailing at foreign exchange swap markers around the country. At the same time, the Bank of China implemented a system of setting accounts and selling foreign exchange, while abolishing the system of foreign exchange retention and the requirement of remitting a specified proportion of foreign exchange to the state. By April 1994, all foreign exchange swap centers were closed, only leaving the National Foreign Exchange Center in Shanghai as the national interbank market. The authorities also indicated that the ultimate goal of these measures was convertibility of the currency.

China achieved the goal of current account convertibility at an earlier date than expected. The government announced that it would established full convertibility of its current account, in conformity with Article 8 of IMF Regulations, from December 1, 1996. The Chinese government accumulated a huge foreign exchange reserve prior to this date so that implementation of this measure would not have a destabilizing effect upon

China's exchange rate and monetary systems.

In short, moves towards currency convertibility and a stable exchange rate imply that the distortionary impact of the controlled foreign exchange mechanism has been gradually eliminated, and market signals have been coming closer to a reflection of comparative advantage.

2.2.4 Implementation of the APEC Trade Liberalization Commitment

In November 1994, the APEC leaders agreed to announce their commitments to complete the scheme of free and open trade and investment in the APEC region. This was formalized in the Bogor declaration, in which the industrial members pledged to achieve this goal by 2010, while developing members have until 2020. In Osaka on 19 November 1995, the process of APEC entered the action phase of translating the Bogor goals into reality. The Osaka Agenda, as a blueprint, established the general framework for trade and investment liberalization, trade and investment facilitation, and economic and technical cooperation.

As noted already, China began to lower its tariff rate on over 4,000 items from April 1, 1996, as part of its commitment towards trade liberalization. In conformity with its commitments at the APEC Osaka meeting, China offered its Individual Action Plan(IAP) to the APEC Manila meeting. This plan contains a scheme to implement the Osaka Action Agenda within short-term, mid-term and long-term objectives. The following are highlights of China's IAP which incorporates tariff and non-tariff measures:

- **Tariff:** In the short-term(1997-2000), reduce the simple average level of tariffs from a current 23 percent to around 15 percent, and make further reductions in the mid-term(2001-2010) and long-term(2011-2020).

- **Non-tariff measures:** In the short-term, identify, review and gradually reduce or relax 384 items of non-tariff barriers, and ensure the transparency of non-tariff measures. In the mid- and long-term, reduce and eliminate all non-tariff measures inconsistent with the WTO agreements.

China pledged to adjust its policies in line with the Manila Action Plan for APEC. But how to make a comprehensive and clear program related to trade liberalization is the essential issue for China's government.

2.3 Summary

China's prereform trade regime comes to close to a pure import substitution paradigm. Through this system, China's foreign trade was conducted through 12 FTCs organized along product lines. These corporations procured and traded the quantities directed by the central plan, and all profit and losses were absorbed by the state budget. In the first episode of foreign trade reform, more and more enterprises were given rights to engage in foreign trade activities, as administration of the system was decentralized to a lower level, while trade planning was progressively reduced. As the role of the trade plan declined, direct control over exports and imports has continued through the commercial policy, including both the tariff regime and non-tariff measures.

In an import-substituting regime, incentives are biased against exports and in favor of domestic sales. China also adopted some incentives for exporters, such as foreign exchange retention, a responsibility contract system, and export rebates. The introduction of incentives for exports into China's traditional trade system can be viewed as a move towards liberalization because it reduced the bias against exports.

Over time, China's trade regime evolved in the direction of the PEP paradigm,

which is a trade strategy similar to that of Korea. Considerable progress in unilateral and multilateral liberalization was made in the second episode. In particular, effective 1994, all remaining mandatory trade planning was eliminated, while canalization was limited to only few products. Tariffs were lowered through several rounds of reduction. These reductions lowered China's average tariff rate from 43.1 percent in 1992, to about 23 percent in April 1996. Under an agreement on trade liberalization with the United States in October 1992, China also pledged to remove the bulk of its import licensing and quota controls over a five-year period. In 1996, the items controlled by non-tariff measures was reduced to 384, accounting for 5.9 percent of total items. In the context of commitment for APEC trade liberalization, China made a framework of trade liberalization with short-, mid- and long-term objectives, consistent with the final goal of APEC in this area.

3. Trade Liberalization: A Quantitative Evaluation

The evolution of China's trade policy is discussed above. In order to better understand China's trade regime, especially trade liberalization, this section will provide a

quantitative assessment of China's trade policy changes. In the absence of comprehensive materials and data, this analysis will focus on import liberalization since 1992.

As defined above, any movement in a trade regime towards neutrality is regarded as trade liberalization. So far, there are three major indicators of a move towards trade liberalization: (a) a change in the price system; (b) a change in the form of intervention; and (c) Changes in the foreign exchange rate. In this study, I adopt the second indicator to measure the degree of China's trade liberalization. In this way, trade liberalization is defined as a move towards neutrality to lower the average levels of nominal and effective protection, and to reduce dispersions within the system of these rates.

3.1 Tariffs and The Effective Rates of Protection

In China, tariffs began to be used for trade policy purposes in the early 1980s. During the late 1980s, China's tariff schedule was readjusted several times. Although certain duties were reduced, others were raised both on " products for which domestic needs had been met " and "those items which could be manufactured locally because of the introduction of advanced technology and equipment, and whose domestic product had consequently increased"[1] . In 1988 and 1989, China increased tariffs on 79 products, including a doubling of duties on many consumer appliances. Duties also were raised on industrial machinery, motorcycles, electrical instruments, various consumer electronic products, air conditioners. automobiles and computers. During the same period tariffs were decreased for 25 products. In 1990, China raised duties on an additional 11 products,

[1] Based on *Customs Law of the People's Republic of China*(1987), and *Regulations on Import and Export Duties of the People's republic of China*(1987, amendment of 1988, 1989).

including chemicals, pesticides, and pharmaceuticals. China's authorities also used an import regulatory tax, imposed as a separate surcharge over and above applicable tariffs. In general, the trend in the overall tariff rate was upward from 1985.

Table 3.1 Simple Average Tariff Rates for Selected Years(%)

No.	Product	1985	1992	1995	1996
1	Crops	38.3	40.3	40.1	31.5
2	Animals	38.4	41.5	35.4	33.5
3	Food processing	48.0	50.2	44.7	39.6
4	Beverage	89.2	109.6	69.8	60.2
5	Tobacco	100.0	104.5	64.1	58.6
6	Textiles & clothing	65.7	73.8	59.5	35.5
7	Leather & leather products	68.6	69.6	58.8	38.4
8	Paper and Printings	31.2	31.6	26.6	20.6
9	Wood products	34.2	35.5	27.9	17.6
10	Petroleum refining	16.6	17.4	13.8	7.6
11	Chemicals	25.6	27.0	21.9	13.8
12	Rubber and Plastic products	37.8	34.6	29.3	19.4
13	Building materials & nonmetallic mineral products	47.2	49.0	41.3	29.5
14	Metals	25.8	26.8	23.4	14.1
15	General machinery	24.2	28.7	24.4	16.3
16	Electrical machinery & electronic products	30.3	39.8	30.9	21.4
17	Transport equipment	26.8	66.7	48.3	34.6
18	Precision equipment and other	35.2	37.4	31.0	23.7
19	Other	68.0	69.5	60.2	42.0
	Total	37.5	43.1	35.7	23.7

Source: Author's calculation based on HS 8-digit level using data from China's Customs.

From 1992, China's tariffs began to decline after adoption of the effective tariff reduction process. After adopting the Harmonized Commodity Description and Coding System(HS) and joining the International Convention on the HS in 1992, China reformed its tariff classification system. There are currently 21 sections, 97 chapters and 6549 tariff lines or items in the Customs Import and Export Tariff of the People's Republic of China.

Table 3.2 Weighted Average Tariff Rates for Selected Years(%)

No.	Product	1985	1992	1995	1996
1	Crops	7.5	7.3	6.0	51.2
2	Animals	43.3	40.3	36.2	33.8
3	Food processing	36.9	34.4	35.3	30.3
4	Beverage	89.2	109.6	69.8	60.2
5	Tobacco	100.0	104.5	64.1	58.6
6	Textiles & clothing	57.5	66.6	53.3	28.4
7	Leather & leather products	49.4	49.1	35.2	24.4
8	Paper and Printings	28.9	30.7	24.0	19.5
9	Wood products	30.7	29.3	22.9	16.5
10	Petroleum refining	16.6	17.4	13.8	7.6
11	Chemicals	17.6	17.3	15.3	10.0
12	Rubber and Plastic products	40.0	36.7	30.7	21.3
13	Building materials & nonmetallic mineral products	48.0	50.4	43.3	31.1
14	Metals	23.0	23.3	20.6	12.5
15	General machinery	24.2	28.7	24.4	16.3
16	Electrical machinery & electronic products	30.3	39.8	30.9	21.4
17	Transport equipment	24.8	54.5	36.0	26.8
18	Precision equipment and other	34.1	39.8	31.3	24.3
	Total	30.5	36.3	28.2	20.1

Source: Author's calculation based on HS 2-digit level using the share of imports.

Table 3.1 and 3.2 give information on the changes and structure of China's nominal tariffs. For comparison purposes, both the unweighted and the trade weighted average tariff rates are presented. In all, the simple average tariff rate was 37.5 percent in 1985, but increased to 43.1 percent in 1992, then declined to 35.7 percent in 1995, which was back to the pre-1985 level. Nineteen-ninety saw the simple average tariff rate drop to 23.7 percent. This result shows that since 1992 there have been remarkable achievements in China's tariff reduction process, although China's current tariff rate is still relatively high compared to the most developing countries.

From table 3.2, the trade weighted average tariff rates for the years of 1985, 1992, 1995 and 1996 are, in general, lower than the unweighted average tariff rates, They are 30.5, 36.3, 28.2, and 20.1 percent, respectively. There are two explanations for this. One

reason is that the tariff structure is in contrast to the import structure. That is, higher tariffs on individual commodities reduce the demand for those goods and hence their trade shares. Anther reason is that there exists so-called "water in the tariffs", whereby highest tariff rates are often applied to a very few categories of goods, but no or very little trade occurs in these commodities[1] . For example, products such as food preparations, perfume and cleaning commodities, leather products and wood manufactures, have relatively high tariffs, but the import shares for these items are small or negligible.

Looking at the structure of China's tariff protection, there is a relatively high dispersion of tariffs, with relatively high tariffs concentrated on manufactured consumer goods. The tariffs for tobacco, beverages, and the broad category of food are highest, as these products represent a non-essential consumer focus. In contrast, essential foodstuffs, including cereals and animal foodstuff, have the lowest tariffs. Among intermediate and capital goods, tariffs for those which represent the heart of China's industrial and import structures are mostly higher than those on most critical raw materials(petroleum, non-ferrous metals and metallic ores). Import duties on chemicals, wood manufactures and certain machinery are lower than
the overall average tariffs rates.

China's tariff structure basically reflects the multiple objectives of its trade policy. In short, a desire to protect sectors in which domestic production is significant, means that tariffs on capital goods and intermediates are relatively high. For example, in the road vehicle and textiles yarns sectors, the rates are exceptionally high. Likewise, high tariffs are used to discourage nonessential consumption, as in the case of tobacco, beverages, and certain items of clothing. This has resulted in very low import penetrations in these sectors, and has had the unintended effect of providing high margins of protection for local

1 One useful alternative is weighted by the amount of domestic production protected by the tariff. This should be biased towards putting heavier weight on more highly protected sectors, converse to the import share weighted method.

producers. On the other hand, where the tariff has been used to complement the objectives of the plan, such tariffs have been very low and this has created an inherent bias against certain raw materials and intermediate inputs for which domestic prices have been kept artificially depressed.

It is well known that the effective rate of protection(ERP) is an important indicator of trade restrictiveness, which captures the impact of tariff schedules on value added rather than output prices. Hence, the most rigorous measure of protection is the ERP. Table 3.3 gives the author's estimates of ERP for the years of 1985, 1992, 1995, 1996[1] . In this table, high levels of tariff redundancy are immediately apparent. The highest ERPs for selected years reach 121.3, 126.6, 99.9 and 89.9 percent, respectively. Tariffs on almost all products have significantly declined since 1992, with remaining high-level tariffs biased towards consumer rather than intermediate or capital goods.

It must be noted, however, that a distinct feature of China's tariff regime is that its actual rate is much lower than its nominal tariff rate. As figure 3.1 shown, China's import duties have accounted for a very small proportion of total central government revenues. In this respect, China is more like a developed country than a developing country. In 1995, the tariff collection ratio accounted to 2.6 percent, a rate that is more than 30 percent lower than the economy-wide simple average tariff rate.

Table 3.3 Effective Rates of Protection for Selected Years(%)

No.	Product	1985	1992	1995	1996
1	Crops	41.2	43.4	44.5	35.5
2	Animals	37.5	41.1	33.4	34.0

[1] Here the ERP is calculated based on China's input-output table of 1992, using a reduction form(Okamoto, 1994):

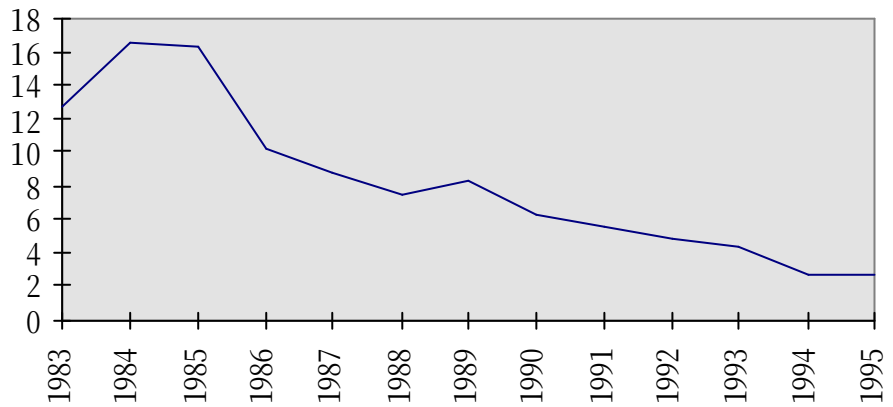
$$ERP(t_j)=(t_j-\sum_{i=1}^{n} a_{ij}\ t_i)/(1-\sum_{i=1}^{n} a_{ij})$$

Where, t_j denotes tariff rate of product i, a_{ij} represents the input coefficient from product i to product j.

3	Food processing	73.8	76.0	62.9	16.7
4	Beverage	137.1	175.1	99.9	89.0
5	Tobacco	121.3	126.6	73.4	68.9
6	Textiles & clothing	97.5	111.8	86.6	44.9
7	Leather & leather products	86.3	80.8	70.6	46.7
8	Paper and Printings	30.7	30.5	25.6	20.7
9	Wood products	32.5	33.0	25.2	15.9
10	Petroleum refining	15.7	14.9	12.8	6.8
11	Chemicals	18.1	18.5	14.8	8.2
12	Rubber and Plastic products	40.1	32.2	28.2	19.6
13	Building materials & nonmetallic mineral products	52.8	54.1	45.9	33.2
14	Metals	24.1	24.6	21.8	12.9
15	General machinery	21.9	26.1	22.6	15.1
16	Electrical machinery & electronic products	29.7	41.8	31.8	22.2
17	Transport equipment	25.8	91.9	64.3	47.1
18	Precision equipment and other	37.0	37.2	31.3	25.3

Source: Author's estimates based on China's input-output table of 1992.

Figure 3.1 China's Tariff Collection Ratio



Note: The tariff collection ratio is defined as a ratio of total tariff revenue to imports.

Source: *China Statistical Yearbook*, 1996.

What accounts for the wide difference between nominal and actual tariff rates?

Many economists attribute this feature to China's extensive import duty exemptions and rebate system. China operates a very efficient system of duty exemptions for exporters of inputs for processing, as well as the exemption of imported input for exporters. In addition, imports of capital equipment for FDI projects are usually duty free. In sum, these account for about half of all imports. This still means that more than half of "regular" imports are exempted. It is likely that other imports, especially those used for priority projects, are also exempted. However, this can not explain completely the reason for the low collection ratio.

In author's opinion, there is another relevant import explanation for this low collection ratio. Following a decade of reform, economic administrative decentralization has produced a degree of regional economic separatism and rampant official corruption. In practice, China's tariff regime is now considerably flexible. In many regions, the import duty can be negotiated. In other words, rent-seeking is widespread in China.

3.2 The Coverage of Non-Tariff Barriers

As noted earlier, prior to the reforms of 1978, China's foreign trade was conducted by the twelve national FTCs in accordance with the national plan. In that context there was no need for commercial policy. As the scope of planning declined, control over trade was increasingly effected by use of licenses, and China maintained a complex system of non-tariff barriers. These barriers comprised a variety of administrative instruments including the mandatory import plan, canalization of imports through designated national FTCs, import licensing, and import control. The fundamental feature of China's non-tariff barriers was overlap in the application of each measure, especially during the pre-1995 period.

In the early 1980s, the number of commodities for which licenses were required was small: 21 items in 1982, declining to 18 items in 1984. But as the scope of planning shrank, more commodities were added to the schedule of imports and exports for which licenses were required. By 1988, the number of import commodities subject to licensing had

increased to 53(Lardy,1992).

Regularization and justification of import control under GATT/WTO principles is China's goal in the 1990s. It is estimated that in 1992, all non-tariff barriers taken together applied to 17.5 percent of the total number of items on the HS Customs Tariff Schedule. This figure had declined to 5.9 percent by 1996(see table 3.4). The importance of import planning has been declining over time. Items subject to import planning accounted for 9.1 percent of all HS items in 1992 and 1.6 percent in 1996, respectively. In the meantime, as a result of the gradual elimination of non-tariff measures, the percentage of import licenses and quotas together has drop from 14.7 percent in 1992 to 4.3 percent in 1996. At present, import licensee are the principle means of import restriction.

Table 3.4 reports the structure of non-tariff barriers. During the period of 1992 to 1996, although the sectoral coverage of non-tariff barriers decreased with the exception of beverages, there appears little change in the distribution of non-tariff barriers across productive sectors. Overall, the sectors that are currently subject to higher concentration of non-tariff barriers include tobacco, beverage, textiles, transport equipment, machinery and electronics, and petroleum refining.

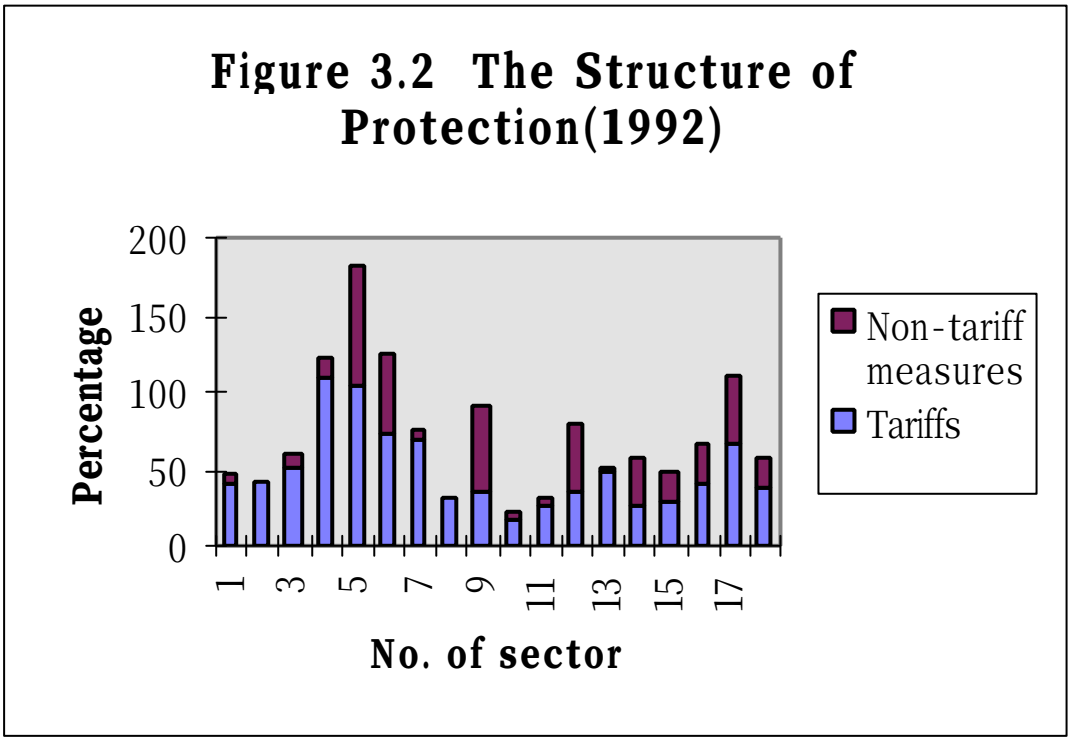
Table 3.4 Percentage of Items controlled by Non-Tariff Measures (%)

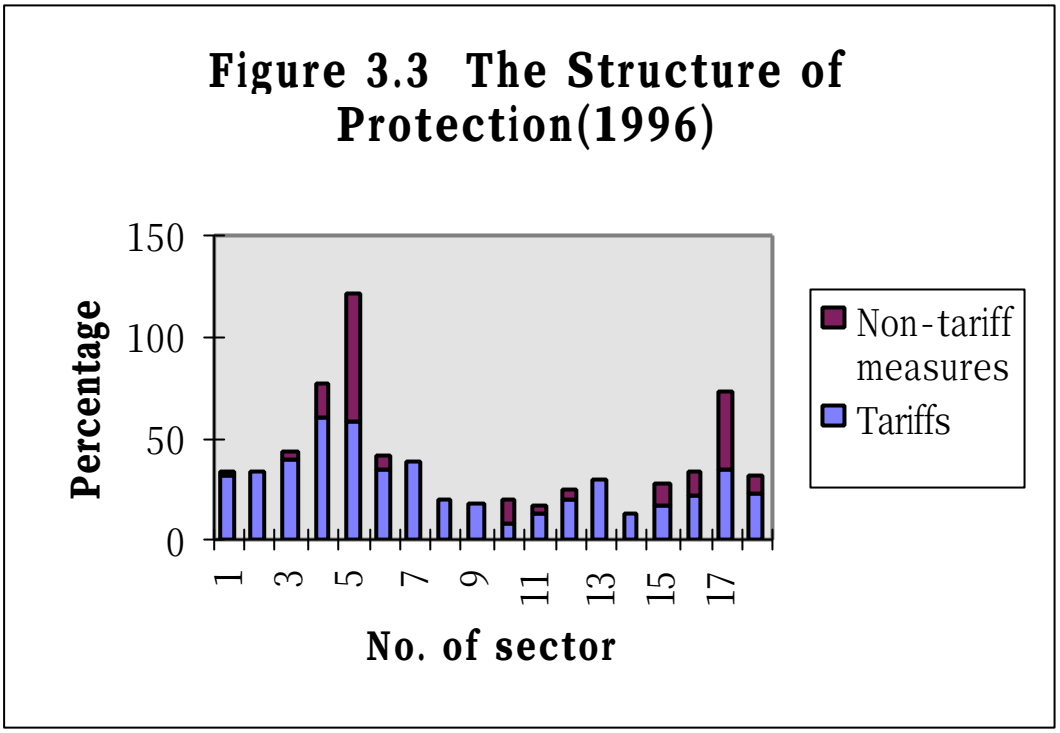
No.	Product	Total		L+Q		M+C	
		1992	1996	1992	1996	1992	1996
1	Crops	5.4	2.0	2.1	2.0	3.3	0.0
2	Animals	0.7	0.0	0.7	0.0	0.0	0.0
3	Food processing	10.0	4.1	1.7	4.1	9.3	0.0
4	Beverage	11.8	16.7	11.8	16.7	0.0	0.0
5	Tobacco	77.8	63.6	33.3	63.6	66.7	0.0
6	Textiles & clothing	51.7	6.7	33.4	6.7	33.9	0.0
7	Leather & leather products	5.7	0.0	5.7	0.0	0.0	0.0
8	Paper and Printings	0.0	0.0	0.0	0.0	0.0	0.0
9	Wood products	55.7	0.0	55.7	0.0	55.7	0.0
10	Petroleum refining	5.0	11.9	5.0	11.9	5.0	11.9

11	Chemicals	3.7	3.2	2.6	3.2	3.0	0.0
12	Rubber and Plastic products	44.3	5.1	40.5	5.1	37.6	0.0
13	Building materials & nonmetallic mineral products	3.2	0.0	3.2	0.0	0.0	0.0
14	Metals	31.5	0.0	0.8	0.0	30.7	0.0
15	General machinery	19.1	11.9	14.7	4.1	5.9	7.8
16	Electrical machinery & electronic products	26.0	12.7	26.0	7.0	2.5	5.7
17	Transport equipment	43.8	38.1	43.8	34.6	0.0	3.5
18	Precision equipment and others	19.4	8.4	19.4	3.9	0.0	4.5
	Total	17.5	5.9	14.7	4.3	9.1	1.6

Note: L, Q, M, and C represent import licenses, quotas, mandatory and canalization.

Source: Author's estimates based on HS 8-digit level using data from China's Customs.





Finally, the combination of the structures of tariffs and non-tariff barriers, further shows the general structure of China's trade restriction and evolution of trade liberalization. It follows from figure 3.2 and 3.3 that many products are covered jointly by both a tariff and a non-tariff barrier. This result is important, since it suggests that a tariff cut would not necessarily generate the expected effect due to the influence of the non-tariff barrier.

3.3 Summary

In previous trade policy reform, the structure of China's import protection was mixed. Despite the decline of the trade plan, import restrictions were increased, both in terms of tariff levels and the coverage of non-tariff barriers. Since 1992, the degree of China's import protection has been decreasing steadily. By April 1, 1996, China's nominal average tariff rate was below 24 percent, while the ratio of items controlled by non-tariff barriers shrank to 5.9 percent. The main objective of China's current import regime is the

protection of domestic manufacturing activity. Therefore, tariff rates and non-tariff barriers are typically stronger for manufactured goods than for other commodities. In the case of a wide variety of product groups, however, such as apparel, footwear, toys, sporting goods and miscellaneous manufactured products, China has already achieved export competitiveness, and high protection appears redundant. Apart from offering protection, China's import regime is also used to selectively penalize the consumption of products such as tobacco, beverages, and a variety of processed nonessential foodstuffs. The analysis also indicates that there is wide gap between nominal and actual tariffs. For example, in 1995 the simple average tariff rate was 35.7 percent, yet the actual tariff rate applied was about a thirteenth of this figure. In this case, China's tariff regime is considerably flexible.

4. The Effect of China's Trade Liberalization

In this section, The impact of trade liberalization is first reviewed from the perspective of the overall economy, where two major effects of liberalization--impacts on output and external transactions are analyzed. Furthermore, an examination of sectoral impact is carried out. In the end, an evaluation of the success of trade liberalization is undertaken, using a cross-section regression method.

4.1 Economic Performance after Reform

In principle, three alternative mechanisms are available to analyze the link between liberalization and improved economic performance. One is a "resource reallocation" effect, with producers responding to a new set of relative prices that are closer to world market rates, and which guide resources in line with comparative advantage. Another is "shock" effect, with the competitive pressures from foreign competitors pushing domestic

producers to achieve the highest potential efficiency. A third is the dynamic mechanism whereby a higher long-run rate of growth can be sustained by the introduction of better and more appropriate technology through access to foreign investment, equipment imports, and the demonstration effect of imported goods[1] .

Table 4.1 Economic Activity Indicators

(at constant prices, 100 millions yuan)

Year	GDP	Agriculture	Industry	Services
1978	3624.1	1018.4	1745.2	860.5
1980	4203.9	1065.2	2144.8	982.6
1985	6990.8	1582.5	3453.7	1995.5
1986	7610.6	1634.5	3808.0	2237.3
1987	8491.2	1711.9	4329.8	2559.1
1988	9448.0	1754.7	4958.1	2897.3
1989	9832.1	1808.6	5144.8	3053.0
1990	10209.0	1942.0	5307.1	3123.6
1991	11147.7	1987.9	6043.6	3398.9
1992	12735.1	2081.6	7321.1	3820.6
1993	14452.9	2179.3	8774.8	4227.6
1994	16283.1	2266.9	10387.4	4632.0
1995	18000.9	2380.0	11856.8	5002.9

Source: *China Statistical Yearbook*, various issues.

Table 4.2 External Transactions

(at current prices, 100 millions yuan)

Year	Exports	Exports to	Imports	Imports to	Trade to

[1] The "new" growth theory has established a causal link between openness and more rapid growth. Briefly, new techniques and technology are determinants of long-run economic growth. A closed economy will have to rely on its domestic research and development alone to achieve growth. An open economy can import new technologies from the entire world, so can achievea higher growth. It appears that this kind of growth is "import-led" rather than "export-led".

	Total	Manu.(%)	GDP (%)	Total	Manu.(%)	GDP (%)	GDP (%)
1978	167.6	43.5	4.6	187.4	na.	5.2	9.8
1980	271.2	49.2	6.0	298.8	65.2	6.6	12.6
1985	808.9	49.5	9.0	1257.8	87.5	14.0	23.0
1986	1082.1	63.6	10.6	1498.3	86.8	14.6	25.2
1987	1470.0	66.4	12.9	1614.2	83.9	13.5	25.3
1988	1766.7	69.7	11.8	2055.1	81.8	13.8	25.6
1989	1956.0	71.3	11.6	2199.9	80.1	13.0	24.6
1990	2985.8	74.4	16.1	2574.3	81.5	13.8	29.9
1991	3827.1	77.5	17.7	3398.7	83.0	15.7	33.4
1992	4676.3	79.9	17.6	4443.3	83.0	16.6	34.2
1993	5284.8	81.8	15.2	5986.2	86.3	17.3	32.5
1994	10421.8	83.7	22.4	9960.1	85.8	21.3	43.7
1995	12451.0	85.6	21.4	11047.7	81.5	18.9	40.3

Source: *China Statistical Yearbook*, various issues.

Table 4.1 and 4.2 contain aggregate data on China's output, exports and imports over the period from 1978 to 1995. It is clear from this data that China's output grew continuously and rapidly during almost two decades of reform. The annual growth rates of real GDP, and outputs of agriculture, industry and services account to 9.9, 5.1, 11.9 and 10.9 percents respectively, with the growth rate of industry and services surpassing agriculture.

At the same time, the expansion of China's merchandise exports and imports were faster than output growth. Exports increased at an average annual rate of 17.4 percent, raising from 4.6 percent of total GDP in 1978 to 21.4 percent in 1995. Imports grew at an average annual rate of 15.8 percent, representing a GDP share of 5.2 percent in 1978 and 18.9 percent in 1995. If the aggregate trade ratio to GDP indicates openness of the economy[1] , China's economy has increased its openness sharply over time. The index of openness rose from about 10 percent in 1978 to a highest level of 43.7 percent in 1994, and then declined to 40.3 percent by 1995. These figures suggest that China has one of the

[1] This index maybe yields misleading measure in China. By definition, trade is gross measure, including all inputs, while GDP is a net concept. Especially, China's trade is somewhat dominated by the

most open economies in the world. Of course, the more remarkable growth of export rather than the growth of imports, was mostly responsible for this increase in the degree of openness.

Manufactures have played an increasing role in China's exports. As a share of total exports, manufactures increased from 43.5 percent in 1978 to 85.6 percent in 1995. It should be noted, however, that China's manufactured exports have continued to be heavily concentrated in labor-intensive, light industrial goods. Products such as textiles, clothing, telecommunication assembling, and arts and crafts still represent a high percentage of total exports. Over the same time, there has also been a relative concentration of China's manufactured imports towards machinery, transport equipment and industrial materials.

The information on average growth of output, exports and imports for the whole period of reform, however, give little indication of whether the open or more extensive reforms have worked effectively.

Here adopted a simple approach to investigate the impact of trade liberalization. That is, to investigate the performance before and after an certain time. If the performance after a reform is introduced is compared with the performance before, the implication assumption is that all of the change is due to the program and none to changes in the external environment. However, because the comparison is a simple one of before-and-after analysis, there is no certainty that these changes can be attributed directly to the trade liberalization.

Table 4.3 Economic Growth by Trade Liberalization Phase

Period	Annual growth rate (%)					
	GDP	Agriculture	Industry	Services	Export	Import
1978--1995	9.9	5.1	11.9	10.9	17.4	15.8

processing of imported inputs, which has a low value added.

1978--1991	9.0	5.3	11.7	11.1	16.6	14.6
1992--1995	12.2	4.6	17.4	9.4	20.5	17.9

Note: Growth rates of GDP, and the outputs of agriculture, industry and services are based on calculation from table 4.1. Growth rates of exports and imports are calculated using US$ in order to remove the impact of foreign exchange rate fluctuation.

From this approach, superficially at least, there is some support for a positive link between trade liberalization and economic performance, since there is a crude association between phase of trade policy reform and performance. Table 4.3 provides a comparison of two different periods, and the annual growth rates of output, exports and imports. Economic growth rates, except for agriculture and services, in the second episode(1992—1995), are superior to those in the first episode(1978—1991), especially for industry and exports.

4.2 The Effect of Liberalization: A Cross-Section Regression Analysis

Although the above results provide some support for a positive link between trade liberalization and economic performance at an aggregate level, this type of evidence can be no more than suggestive. Rigorous testing of hypothesis linking trade liberalization and performance requires a methodology involving econometrics. In this section, I adopt a cross-section series regression of various selected performance indices, which is applied separately to the nominal tariffs and changes, and changes in non-barrier measures, based on data for 16 manufacturing subsectors for years of 1992 and 1995. Specifically, the equation is represented as follows:

$$PI_i = a_0 + a_1 T92 + a_2 \Delta T + a_3 D_1 + a_4 D_2 + a_5 D_3 + a_6 D_1 \Delta T + a_7 D_2 \Delta T + a_8 D_3 \Delta T + m_i \qquad (1)$$

Where i denote sector, m_i is a error variable, and

PI_i = a performance indicator;

$T92_i$ = the nominal tariff rate in 1992;

ΔT_i = the change in the level of nominal tariff rate between 1992 and 1995; and,

D_1 through D_3 are dummies representing changes in non-tariff barriers as follows:

$$D_1 = \begin{cases} 1, & \text{if import restriction was tight both in 1992 and 1995} \\ 0, & \text{otherwise} \end{cases}$$

$$D_2 = \begin{cases} 1, & \text{if import restriction was tight in 1992 and loose in 1995} \\ 0, & \text{otherwise} \end{cases}$$

$$D_3 = \begin{cases} 1, & \text{if import restriction was loose in 1992 and no in 1995} \\ 0, & \text{otherwise} \end{cases}$$

$D_1 \Delta T$, $D_2 \Delta T$, $D_3 \Delta T$ represent the interaction of the tariff reduction and changes in non-tariff barriers respectively. The coefficient for $D_1 \Delta T$ is an estimate of the effect of changes in tariff on the performance when the non-tariff barriers keep tight. The coefficient for $D_2 \Delta T$ is an estimate of the effect of tariff on the performance when the non-tariff barriers change from tight to loose. The coefficient for $D_3 \Delta T$ represents the effect of tariff reduction on the performance when non-tariff barriers become tight from loose.

Table 4.4 reports the coefficient estimates of the effect of tariff cuts and changes in a non-tariff regime on the growth rate of output, exports and imports.

With respect to the effect on output growth, the sign of the coefficients of the tariff

initial level and change are positive and negative respectively. This result appears to point that output growth not only depends on the initial level of tariffs,

Table 4.4 Coefficient Estimates of the Effect of Trade Liberalization

Dependent variable	constant	T92	ΔT	D_1	D_2	D_3	$D_1 \Delta T$	$D_2 \Delta T$	$D_3 \Delta T$	R^2
Output(%)	10.58	0.97	-4.54	6.08	48.26	-1.22	5.67	11.21	4.46	0.49
	(0.12)	(1.10)	(-1.11)	(0.46)	(0.92	(-0.02)	(1.45)	(1.68)	(1.19)	
Imports(%)	43.24	--	0.88	9.551	7.34	-1.43	2.36	4.09	3.76	0.25
	(0.54)		(0.52)	(0.14)	(1.08)	(-0.02)	(0.58)	(0.40)	(0.77)	
Exports(%)	123.71	-0.92	0.10	33.51	73.89	-101.03	-1.33	6.22	-2.51	0.83
	(1.56)	(-1.08)	(0.03)	(1.01)	(1.60)	(-2.26)	(-0.39)	(1.06)	(0.76)	

Note: Figures in parentheses represent t values.

but also on the degree to which the level of tariffs changes. But the effect of tariff variables are not significantly related to performance, compared with other effects. This is to be expected since, as mentioned before, nominal tariffs can not reflect the actual degree of trade protection.

The coefficient of non-tariff barrier dummies are relatively significant with regard to the expected signs. More specifically, the coefficient estimate of D_2 is most significantly positive. That is, changes in the non-tariff regime from tight to loose produced a considerable positive effect on output growth. This implies that the relaxation of non-tariff barriers has made a significant contribution to China's economic performance.

Likewise, the result for the effect of interaction terms of tariff change with the different non-tariff barriers' dummies are reasonable, where the coefficient of $D_2 \Delta T$ is also the most significantly positive among three coefficients. It shows that tariff reduction only plays a role when complemented by the elimination of non-tariff barriers.

In the case of imports, the growth effect of the non-tariff barriers' variable is similar to one on output growth. But the effect of tariff variables are undetermined, not only with regard to signs, but also for the coefficient estimates.

The effect of tariff level and reduction on export growth also appears to be negligible and insignificant. In contrast, changes in the non-tariff regime yield a positive effect on export growth, except for the coefficient estimate on D_3 which is significant and negative.

Among the interaction terms, only the coefficient of $D_2 \Delta T$ is significant and positive. That is, changes in tariffs across sectors and time appear to affect the growth of exports positively when the non-tariff barriers decline from tight to loose, while the effect is negative and negligible when non-tariff barriers have no or little change.

Although the statistical significance of these findings is not clearly evident, these results do reveal some interesting points. In sum, the following conclusions arise from these results:

- The moves towards trade liberalization has produced a positive effect on China's economic performance.

- The tariff regime has an insignificant impact on economic performance. The effect of tariff reduction is negligible.

- Non-tariff barriers play a greater role in affecting economic performance. China's economic growth in the 1990s is closely and positively related to the removal of non-tariff barriers.

- Tariff cuts can have a greater impact on economic performance when combined with the elimination of non-tariff barriers.

5 . The Effect of APEC Trade Liberalization on China's Foreign Trade

Together with the fast-growing developing economies in the region, China has emerged as a leading Asia-Pacific economy with an outstanding economic and trade performance in the 1990s. Moreover, the economic relations between China and other APEC members are becoming more and more important, in setting the goals of APEC towards trade and investment liberalization. In international trade terms, China's exports and imports are concentrated in APEC. In this section, the main focus is on assessing the impact of APEC trade liberalization on China's foreign trade by exploring the potential for bilateral trade between China and other APEC members.

5.1 Perspective on China's Foreign Trade within APEC

Table 5.1 records information on China's export and imports within APEC in the

1990s. From the table it follows that the share of exports and imports accounted to 78.0 and 68.9 percent in 1991. These figures fell to 74.1 percent for exports and 59.6 percent for imports by 1994. The reason for this decrease seems to be explained by the sharp down in the role of Hong Kong in China's foreign trade. Apart from the significant decline in Hong Kong's share, and a slightly decline in Singapore's share, China increased its exports to other APEC members rapidly. The changes in share of imports from other APEC members is mixed. As is the case for exports, there has also been a substantial decrease in the role of Hong Kong. Conversely, Japan increased its exports to China the most rapidly, representing the largest segment(22.7 percent) of China's total imports in 1994. Another country with high export growth to China was South Korea which increased its share from 1.7 percent to 6.3 percent over the same period. Changes to the rate of imports from other APEC members were not significant. As can be seen in the table below, it is obvious that China is becoming more closely linked to Eastern and Southeast Asian economies of APEC due to the high economic growth of this region.

Table 5.1 China's External Trade within APEC(%)

APEC member	**Exports**		**Imports**	
	1991	1994	1991	1994
Australia	0.77	1.23	2.44	2.11
Canada	0.77	1.15	2.56	1.59
Chile	0.13	0.24	0.17	0.16
Hong Kong	44.71	29.74	27.28	8.14
Indonesia	0.67	0.87	2.2	1.37
Japan	14.22	17.8	15.72	22.7
Korea	3.03	3.64	1.67	6.31
Malaysia	0.73	0.92	1.26	1.40
Mexico	0.12	0.17	0.23	0.08
New Zealand	0.09	0.16	0.27	0.27
Philippines	0.35	0.39	0.20	0.23
Singapore	2.80	2.11	1.62	2.15
Thailand	1.03	0.96	0.66	0.75
the United States	21.47	17.75	12.54	11.98
Other	22.0	25.84	31.15	40.43

Total	100.00	100.00	100.00	100.00

Source: UN, *Yearbook of International Trade Statistics*, 1994

There is another way to examine the bilateral trade flows between China and other APEC member at the relative level. The determinant of the share of one country's trade that goes to another country can be identified formally by making use of the definition of I_{ij}, the index of intensity of country's export trade with country j:

$$I_{ij} = x_{ij} / m_j \qquad (2)$$

where x_{ij} = the share of country i's going to country j; and

m_j = the share of country j in world imports(net of country j's imports).

This index concentrates attention on variants in bilateral trade levels that result from differential resistances, by abstracting from the effects of the size of the exporting and importing countries. The larger the index, the more independent[1] .

Table 5.2 Trade Intensity Index

APEC member	I_{ij}^1	I_{ij}^2
Australia	0.98	1.77
Canada	0.32	0.40
Chile	0.89	0.54
Hong Kong	6.54	2.22
Indonesia	1.14	1.41
Japan	2.56	2.36
Korea	1.46	2.70
Malaysia	0.65	0.98

[1] This index has the property that if trade is not geographically biased in the sense that the share of i's trade going to j equals j's importance in world trade, then it will have a value of unity for all j.

Mexico	0.09	0.05
New Zealand	0.55	0.92
Philippines	0.73	0.72
Singapore	0.85	0.91
Thailand	0.73	0.68
The United States	1.09	0.96

Note: The first index is based on China's exports and partners' imports, and the second is based on China's imports and partners' exports.

An estimate of the intensity indices between China and other APEC members, both in terms of exports and imports, are presented in Table 5.2. The results identify the degree of trade independence between China and other APEC members. One important result is that the highest dependency level exist between China and four APEC members, including Hong Kong, Japan, Korea and Indonesia.

5.2 Complementarity Tests

The above intensity index approach, does still combine the effect of differences in bilateral trade complementarities with the relative transactions costs of trading with different countries. To separate them, I adopt a method to subdivide the intensity index into the product of a trade complementarity index(C_{ij}). That is, the complementarity index gives the value of a product between the export vector of country I and the import vector of country j:

$$C_{ij} = (\sum_k x_{ik} m_{jk}) / \left[\sum_k x_{ik}^2 \sum_k m_{jk}^2 \right]^{1/2} \qquad (3)$$

where

x_{ik} = the share of commodity k in the total exports of country i;

m_{jk} = the share of commodity k in the total imports of country j.

There is an implication assumption here that the vector of an economy's commodity exports can be regarded as its export supply, and the vector of commodity imports as its demand for imports. In this case, the greater the complementarity between the vector of exports of one economy and the vector of imports of another, the greater the expected volume of exports, respectively, from the former to the latter. By definition, this index ranges from 0(complete dissimilarity) to 1 (complete complementarity).

Table 5.3 presents the results of these complementarity tests. It suggests that the structure of China's exports is similar to those of the industrialized APEC members. In contrast, the similarity level is relatively lower between China and developing APEC members, especially those of ASEAN. In general, China has "complementarity" with Hong Kong, Japan, and the United States, and is in competition with the Philippines, Malaysia, Indonesia, Singapore and Thailand. With the ongoing removal of trade barriers among APEC members, it will be expected that the complementarity level of China with the industrial members will increase.

Table 5.3 Complementariy Index

APEC member	C_{ij}
Australia	0.70
Canada	0.64
Chile	0.66
Hong Kong	0.89
Indonesia	0.57
Japan	0.76
Korea	0.64
Malaysia	0.54
Mexico	0.71
New Zealand	0.71
Philippines	0.54
Singapore	0.58
Thailand	0.60
the United States	0.72

Source: Author's estimate based on SITC 2 digit level using data from *Yearbook of International Trade Statistics*(1994).

5.3 The Potential for China's Exports under APEC Trade Liberalization

In the end, the short-term forecasts relating to the expected bilateral trade flows between China and other APEC members is given. The result is estimated by means of a gravity model from the author's pre-research. In order to assess the impact of APEC trade liberalization, trade policies, defined as dummies, are entered into the formal gravity model which is used extensively in international trade studies.

The result is given in table 5.4. First, the overall exports of China within APEC will grow at a rate of 29.8 percent after free trade. Second, there should be a relative and significant dispersion in the growth rate of bilateral trade flows between China and other APEC members, ranging from -46.1 to 1003.2 percent, with the most notable feature that China's exports to Hong Kong will fall sharply. This means that the pivotal role of Hong Kong in China's exports will disappear after realization of the goal of APEC trade liberalization[1] . But China's exports to other APEC members should increase significantly. Third, while Japan, the

Table 5.4 China's Exports within APEC under Free Trade(%)

APEC member	Change	Share
Australia	146.64	2.13
Canada	100.33	2.84

[1] In past, China conducted most of its trade through Hong Kong. But China's exports retained in Hong Kong have declined absolutely since 1988, and their share of China's total exports has declined sharply.

Chile	58.33	0.38
Hong Kong	-46.17	14.07
Indonesia	137.52	1.95
Japan	57.04	29.36
Korea	224.89	11.00
Malaysia	85.80	1.55
Mexico	1003.23	2.03
New Zealand	648.75	2.49
Philippines	50.46	0.93
Singapore	82.00	4.75
Thailand	219.49	2.81
the United States	16.97	23.30
Total	29.80	100.00

Source: Author's estimates based on a gravity model.

United States, and Hong Kong should remain the three largest destinations of China's exports, South Korea will play an expanding role.

6. Conclusions and Implications

Prior to trade reform, China was often viewed as a country characterized by an autarchic, inward-looking economic policies. Its trade regime was closest to the pure import substitution paradigm. As a result, trade was simply a balancing influence in the overall national economic plan. The economy had a pervasive anti-export bias, and planned imports were used only to make up for domestic shortfalls. Since the adoption of an "open door" policy, there have been remarkable achievements in China's trade policy reform. Since China's strategy for economic reform relies significantly on a policy of export-led growth, China's approach to trade reform has been a clear reflection of its overall approach to economic reform incorporating gradualism and partialism. In the first episode(1978—1991), trade policy reform aimed at decentralizing administration and reducing the scope of trade planning. One indicator that suggests this reform was successful, was an improvement of export incentives. However, import liberalization fell behind the implementation of decentralization. As the role of the trade plan declined, direct

control over exports and imports has increased. Starting in 1992, a number of new measures, including tariff reduction and elimination of non-tariff barriers, were taken to liberalize trade, in part stimulated by China's efforts to make its trade policy conform with international practices. It now appears that China is taking active steps towards the goal of APEC trade liberalization, although China insists that economic and technical cooperation should be as important as liberalization within APEC. At present, China's trade regime remains subject to many restrictions, but the country's growing integration into the regional and global economy suggests that the actual application of trade policy is relatively liberal. On the whole, the share of merchandise trade in China's GDP increased from about 10 percent in 1978 to 40.3 percent in 1995, with exports and imports accounting for 21.4 percent and 18.9 percent, respectively.

The period since 1978 has witnessed spectacular economic growth in China. This remarkable performance is undoubtedly and closely related to trade liberalization. More specifically, while tariff reductions have produced insignificant effects upon economic performance, the removal of non-tariff barriers has generated significant and positive effects on economic performance. Therefore, non-tariff barriers have provided more effective protection than tariffs, despite the fact that China's nominal average tariff rate has remained relatively high. One explanation for this is that there exists several distortions to the real tariff rate. Thus, tariff reductions have been more apparent rather than real, in that they have merely removed redundancy in the tariff system.

In the 1990s, China has been playing an increasingly role in the process of APEC. The exports and imports of China are heavily concentrated in the APEC region. Under assumption of free trade, it is estimated that China's exports will increase by about 30 percent. Among APEC members, the United States, Japan, Hong Kong, and South Korea should be the most important trading partners for China.

In concluding this study, I shall make several recommendations. First, I believe that

China should continue to make efforts to deeply cut tariff rates and non-tariff barriers, because further import liberalization can improve China's economic performance, and especially export performance. Second, the tariff rate should not only be reduced, but also should be adjusted towards simplicity and uniformity[1] . Third, priority should be given to the elimination of non-tariff barriers. One point for consideration is a possible shift from non-tariff barriers to tariff transparency which is an approach often adopted by developing countries in the early stage of trade liberalization. That is, the replacement of non-tariff barriers by an equivalent tariff at the first step. If so, trade policy will move towards liberality and transparency.

The design of trade liberalization should take place along three lines: optimality, feasibility, and credibility. The optimal theoretical design means that liberalization will yield the maximum welfare. A feasible path is one that is politically sustainable. And a credible design implies that the liberalization will be implemented broadly. It follows from this study that a liberal trade regime is favored over a restrictive one in China. On the other hand, China's government has made a political commitment to achieve the goal of trade liberalization by 2020. These indications show that China holds a positive attitude and confidence towards trade liberalization, although China's government insists that economic and technical cooperation should receive the same treatment as liberalization within APEC. However, the essential question currently faced by China's policy-makers remains "how quickly to liberalize?". That is, the issue of speed of implementation of trade liberalization in the next stage. It should be noted, when discussing this issue, that what is optimal or feasible may not be credible in practice. The experience of trade liberalization in many countries

[1] In general, there are three methods of tariff reduction: One is across-the-board reductions by equal amounts, that is, by an equal percentage of the import price of each good, until a final target level is reached. The second is a variant of the across-the-board method to reduce tariffs by proportional rather than equal amounts. The third, as a widely applied and simple scheme, is the so-called "concertina approach" to tariff cutting, in which all tariffs above a certain ceiling are lowered to a given level and next all tariffs above a new, lower ceiling are lowered to another given level and so on. Some economists favor the third method, since it reduces dispersion in the tariff system most(Papageorgiou, Michaely,

suggests that successful trade liberalization requires that government maintains momentum and credibility.

Trade liberalization is often accompanied by such problems as adjustment costs or transition costs[1] . Unlike other APEC members, China is in transition from the planned economy to one based on a more liberal market, so the market economy is imperfect in China. This may imply that the transition costs for China might be much larger than the costs for market-oriented economies. Adjustment can be delayed through an extended transition period, helping to minimize the losses of the those owing resources in an industry threatened with the loss of protection. Under such transition, trade liberalization can not stand alone, but must be part of a much broader program of liberalization. In other words, trade policy and domestic economic policies are mutually dependent. As mentioned earlier, China's economic reform is characterized by gradualism and experimentalism. This approach requires a long period, and is somewhat incomplete, therefore stalling the expected objectives of the overall scheme.

China's economic reform, in place for over three years, is buckling under the pressure generated by state-owned enterprise(SOE) adjustment. The fundamental problems of the state sectors are well known; many of hundred thousand SOEs are inefficient, overstaffed, burdened with welfare functions and trapped by lack of clear demarcation between enterprise and government. As time goes by their situation is getting worse. Officially, one-third of China's 14,200 large and medium-sized firms are operating at a loss. It has been reported that in 1995 total SOE losses came to Rmb50bn($10.6bn), up 34 percent compared with 1994. The total losses of SOEs are said to exceed their profits, and 70 percent of all SOEs are said to be losing money. In this case, trade

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Choksi; 1991).

[1] Trade liberalization may entail many costs. Workers dislocation will be quite high in formerly protected industries as a result of import competition, and export expansion may be slow to come as exporters may be slow to respond tothe new opportunities; and the devaluation raises costs and may add to inflation, etc.. See Thomas, Matin, and Nash(1990) for more discussion.

liberalization is subject to domestic economic reform, especially state enterprise reform.

If trade reform goes too far, two problems may emerge. First, inadequate incentives within firms to respond to "improved" signals from the market may cause transition costs to be excessive. Second, bankruptcy and unemployment caused by state enterprise reform may be worsened by too rapid foreign trade liberalization.

If a radical reform of the state enterprise would be accompanied by too high a social cost in unemployment and instability, the authorities therefore seem to continue to tinker with experimental program. Likewise, the strategy for trade liberalization in China appears to remains biased towards a "gradual first approach" process. The thrust of the new phase of SOE reform is a change of enterprise governance, with a view to establishing a "modern enterprise sector" of SOEs, that is , the conversion of SOEs into share-holding companies though the implementation of a new Company Law. Through this, the authorities aim to achieve a separation of the ownership functions of the state from the management of the enterprises within a framework of greater autonomy and accountability. Although this change is not "real" privatization in terms of full trade liberalization, it will create favorable circumstance for more rapid liberalization in the future.

Another obstacle to trade liberalization, which arises from the process of policy-making in China, is interest groups. Interest groups in China differ considerably from those in the West. They operate through small-scale informal networks, with little heed to the legal system, or even an ideological affiliation. Trade reform has affected them differently as the various groups have dissimilar goals. Interest groups, including various industrial departments, ministerial bureaucrats and provinces, differ in their opinions on the benefits to be gained from trade. It appears that local officials in the inland provinces, and bureaucrats in the heavy industry ministries, would prefer a slow scheme of trade liberalization.

The APEC policy-making process in China is dominated by the Ministry of Foreign Affair(MOFA) and MOFTEC, and a variety of industrial departments have been excluded from the policy-making process, APEC policy-makers in China, therefore, often experience pressure from various organs on behalf of highly protected sectors, excluded from the reform policy process.

Notwithstanding there exist some difficulties in the process of China's trade liberalization, China's government has shown its determination to achieve the APEC Bogor goal of trade liberalization by 2020, in accordance with the Osaka agenda. Currently, the fundamental issues for the Chinese government are how to coordinate between trade liberalization process and domestic economic reform, and how to design and implement a comprehensive and clear program for trade liberalization. For trade liberalization to gain credibility in China, these issues must be resolved together.

Appendix A

China's Import Tariffs by HS 2-Digit Level

No.	HS 2 digit codes	1985		1992		1995		1996	
		(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)
1	1	16.9	13	22.1	28	19.6	28	7.1	32
2	2	52.2	9	51.1	57	46.1	57	46.6	59
3	3	42.2	23	36.0	112	33.5	112	33.3	112
4	4	54.3	14	54.5	34	52.4	34	53.1	36
5	5	34.5	39	44.4	38	39.9	38	17.0	38
6	6	46.7	6	46.2	16	43.1	16	20.3	16
7	7	49.0	20	47.2	72	41.5	72	21.0	73
8	8	44.0	18	56.4	61	45.5	61	44.9	65
9	9	39.3	18	48.6	39	43.5	39	43.4	39
10	10	1.7	7	1.5	16	1.5	16	54.8	16
11	11	34.2	15	31.4	34	28.3	34	48.9	34
12	12	33.8	31	29.6	78	27.3	78	19.3	77
13	13	39.0	8	33.0	21	30.2	21	17.3	21
14	14	44.1	11	41.2	12	37.4	12	19.3	11
15	15	38.1	28	33.8	53	31.6	53	43.8	46

16	16	70.0	5	70.0	30	65.0	30	45.0	32
17	17	55.7	7	48.2	17	42.1	17	31.2	18
18	18	35.0	6	32.7	11	20.9	11	20.9	11
19	19	53.3	9	58.3	18	53.6	18	41.1	19
20	20	63.5	17	61.3	71	54.5	71	47.7	70
21	21	64.0	10	73.5	17	57.1	17	56.6	19
22	22	89.2	13	109.6	23	69.8	23	60.2	24
23	23	20.0	10	21.1	28	20.8	28	7.6	29
24	24	100.0	2	104.5	11	64.1	11	58.6	11
25	25	30.5	40	30.3	91	26.4	91	7.8	87

(Continued)

No.	**HS 2 digit codes**	**1985**		**1992**		**1995**		**1996**	
		(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)
26	26	6.5	13	7.2	36	4.4	36	2.9	36
27	27	16.6	29	17.4	58	13.8	58	7.6	59
28	28	23.2	113	21.3	229	20.1	229	9.6	229
29	29	20.1	105	19.5	407	15.7	407	10.5	415
30	30	21.8	17	22.3	43	17.1	43	11.2	42
31	31	6.8	17	6.0	28	5.8	28	5.1	28
32	32	33.8	32	32.1	56	25.1	56	14.9	56
33	33	67.1	7	90.2	41	60.4	41	45.7	44
34	34	55.0	10	54.1	27	40.6	27	27.2	27
35	35	33.4	12	37.4	15	33.7	15	20.1	17
36	36	60.0	9	58.2	11	49.5	11	21.4	11
37	37	23.6	16	41.3	76	31.1	76	23.6	74
38	38	25.8	38	26.0	72	23.8	72	13.1	77
39	39	40.5	22	37.3	133	31.3	133	22.0	136
40	40	35.6	27	30.4	87	26.2	87	15.9	99

41	41	29.1	15	28.3	39	24.5	39	17.4	39
42	42	69.2	6	77.0	25	67.4	25	43.2	25
43	43	88.8	8	85.7	23	69.6	23	42.2	23
44	44	30.7	44	29.3	83	22.9	83	16.5	88
45	45	30.3	7	22.0	7	19.9	7	10.9	7
46	46	76.7	3	76.0	15	59.3	15	27.3	15
47	47	3.0	2	2.0	19	2.0	19	2.0	20
48	48	36.2	51	38.9	119	32.9	119	26.7	117
49	49	17.1	14	16.0	20	12.0	20	8.7	28
50	50	68.6	7	80.5	22	56.8	22	20.3	22
51	51	59.5	10	51.2	45	42.0	45	19.7	45
52	52	66.7	6	47.4	127	38.0	127	18.2	131

(Continued)

No.	**HS 2 digit codes**	**1985**		**1992**		**1995**		**1996**	
		(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)
53	53	38.6	21	35.0	45	27.4	45	13.2	45
54	54	47.5	8	71.3	71	55.4	71	32.1	72
55	55	39.0	14	82.3	122	65.0	122	33.2	122
56	56	45.7	14	65.2	31	57.1	31	32.4	43
57	57	28.8	17	93.8	26	76.9	26	39.6	26
58	58	82.4	29	80.1	67	60.0	67	36.7	66
59	59	63.9	37	51.3	40	42.0	40	26.8	41
60	60	92.3	22	83.3	21	66.7	21	36.2	21
61	61	87.1	34	92.8	120	75.2	120	41.4	120
62	62	78.3	24	88.5	154	76.0	154	42.1	155
63	63	70.0	2	80.0	93	63.8	93	35.1	94
64	64	78.3	6	78.6	29	68.6	29	52.4	29
65	65	90.0	8	90.8	13	75.4	13	39.8	13
66	66	100.0	3	100.0	7	80.0	7	37.9	7
67	67	95.0	4	98.2	11	79.1	11	55.9	11

68	68	37.2	26	43.8	63	34.0	63	23.5	62
69	69	61.7	15	59.5	30	48.7	30	52.7	31
70	70	46.5	31	49.2	67	44.9	67	25.1	79
71	71	37.1	32	31.4	60	25.9	60	20.5	63
72	72	21.6	87	14.1	196	13.8	196	9.2	177
73	73	na.		36.9	146	32.5	146	16.0	151
74	74	21.3	44	24.1	68	19.6	68	11.7	70
75	75	17.2	12	12.7	19	11.9	19	7.0	21
76	76	22.2	17	29.5	39	24.9	39	17.8	42
77	78	26.7	12	23.2	11	19.9	11	10.1	11
78	79	25.5	10	25.0	12	21.4	12	11.0	11
79	80	29.5	10	27.9	12	23.3	12	15.1	11

(Continued)

No.	**HS 2 digit codes**	**1985**		**1992**		**1995**		**1996**	
		(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)
80	81	21.4	22	19.4	40	17.5	40	10.6	40
81	82	44.1	17	35.5	72	32.2	72	20.5	73
82	83	49.6	18	55.4	37	47.2	37	27.2	37
83	84	24.2	138	28.7	621	24.4	621	16.3	704
84	85	30.3	78	39.8	410	30.9	410	21.4	440
85	86	9.5	13	8.4	27	7.7	27	7.2	37
86	87	37.4	44	87.7	179	62.8	179	46.1	179
87	88	6.0	5	6.0	17	5.1	17	3.7	17
88	89	11.3	9	14.0	22	13.0	22	10.8	22
89	90	25.0	70	28.2	212	22.6	212	17.9	230
90	91	53.0	16	64.4	57	55.0	57	42.0	57
91	92	54.8	22	54.8	23	48.7	23	36.1	23
92	93	60.0	7	60.0	17	60.0	17	43.2	17
93	94	75.6	9	74.0	50	63.2	50	41.7	50
94	95	60.0	9	55.4	48	47.1	48	38.6	48

95	96	65.5	19	76.5	65	67.5	65	44.8	64
96	97	20.0	8	28.6	7	21.4	7	12.8	8

Notes: (i) = simple average tariff rate,

(ii) = number of item.

Source: Customs of General Administration of the People's Republic of China,

Customs Import and Export Tariff, various versions.

Appendix B

China's Non-Tariff Measures by HS 8-Digit Level

(As of April 1, 1996)

No.	HS 8 digit codes	(i)	(ii)	(iii)	No.	HS 8 digit codes	(i)	(ii)	(iii)
1	10011000	L			26	24013000	L	Q	
2	10019000	L			27	24029000	L	Q	
3	10059000	L			28	24039100	L	Q	
4	10061000	L			29	27100011	L	Q	
5	10062000	L			30	27100012	L	Q	
6	10063000	L			31	27100013	L	Q	
7	10064000	L			32	27100021	L	Q	
8	15111000	L	Q		33	27100031	L	Q	
9	15119000	L	Q		34	27100032	L	Q	
10	15141000	L	Q		35	27100040	L	Q	
11	15149000	L	Q		36	28371110	L	Q	
12	15155000	L	Q		37	31021000	L	Q	

13	17011100	L	Q		38	31022100	L	Q
14	17011200	L	Q		39	31022900	L	Q
15	17019910	L	Q		40	31023000	L	Q
16	17019920	L	Q		41	31024000	L	Q
17	21069010	L			42	31025000	L	Q
18	22011020	L			43	31026000	L	Q
19	22021000	L			44	31027000	L	Q
20	22051000	L	Q		45	31028000	L	Q
21	22059000	L	Q		46	31029000	L	Q
22	24011010	L	Q		47	31031000	L	Q
23	24011090	L	Q		48	31032000	L	Q
24	24012010	L	Q		49	31039000	L	Q
25	24012090	L	Q		50	31041000	L	Q

(Continued)

No.	**HS 8 digit codes**	**(i)**	**(ii)**	**(iii)**	**No.**	**HS 8 digit codes**	**(i)**	**(ii)**	**(iii)**
51	31042000	L	Q		76	40119100	L	Q	
52	31043000	L	Q		77	40121010	L	Q	
53	31049000	L	Q		78	40122010	L	Q	
54	31051000	L	Q		79	40129020	L	Q	
55	31052000	L	Q		80	40131000	L	Q	
56	31053000	L	Q		81	5101100	L	Q	
57	31054000	L	Q		82	51011900	L	Q	
58	31055100	L	Q		83	51012100	L	Q	
59	31055900	L	Q		84	51012900	L	Q	
60	31056000	L	Q		85	5103000	L	Q	
61	31059000	L	Q		86	51031010	L	Q	
62	38081090	L			87	51051000	L	Q	
63	38082010	L			88	51052100	L	Q	

64	38082090	L			89	51052900	L	Q	
65	38083011	L			90	52010000	L	Q	
66	38083019	L			91	52030000	L	Q	
67	38083099	L			92	54022000	L	Q	
68	38084000	L			93	54023310	L	Q	
69	39076010	L	Q		94	54023390	L	Q	
70	40011000	L	Q		95	54023900	L	Q	
71	40012100	L	Q		96	54024200	L	Q	
72	40012200	L	Q		97	54024300	L	Q	
73	40012900	L	Q		98	54024900	L	Q	
74	40111000	L	Q		99	54025200	L	Q	
75	40112000	L	Q		100	54025900	L	Q	

(Continued)

No.	**HS 8 digit codes**	**(i)**	**(ii)**	**(iii)**	**No.**	**HS 8 digit codes**	**(i)**	**(ii)**	**(iii)**
101	54026200	L	Q		126	84081000			C
102	54026900	L	Q		127	84082010	L	Q	
103	54033310	L	Q		128	84082090	L	Q	
104	54041000	L	Q		129	84089099			C
105	55012000	L	Q		130	84143011	L	Q	
106	55013000	L	Q		131	84143019	L	Q	
107	55032000	L	Q		132	84143021	L	Q	
108	55033000	L	Q		133	84143022	L	Q	
109	55062000	L	Q		134	84143029	L	Q	
110	55063000	L	Q		135	84144000	L	Q	
111	55092100	L	Q		136	84145990			C
112	55092200	L	Q		137	84151000	L	Q	

113	55093100	L	Q		138	84158110	L	Q	
114	55093200	L	Q		139	84155210	L	Q	
115	55095100	L	Q		140	84181010	L	Q	
116	55095200	L	Q		141	84181090	L	Q	
117	55095300	L	Q		142	84182100	L	Q	
118	55095900	L	Q		143	84182200	L	Q	
119	55096100	L	Q		144	84183010	L	Q	
120	55096200	L	Q		145	84183021	L	Q	
121	55096900	L	Q		146	84183029	L	Q	
122	84073100	L	Q		147	84184010	L	Q	
123	84073200	L	Q		148	84184021	L	Q	
124	84073300	L	Q		149	84184029	L	Q	
125	84079000	L	Q		150	84185000	L	Q	

(Continued)

No.	**HS 8 digit codes**	**(i)**	**(ii)**	**(iii)**	**No.**	**HS 8 digit codes**	**(i)**	**(ii)**	**(iii)**
151	84254990			C	176	8444000			C
152	84261100			C	177	8445100			C
153	84261200			C	178	84451200			C
154	84263000			C	179	84452020	L	Q	
155	84264100			C	180	84454000			C
156	84264900			C	181	84459000			C
157	84281000			C	182	84463010			C
158	84284000			C	183	84463020			C
159	84291110			C	184	84463090			C
160	84292010			C	185	84501200	L	Q	
161	84294011			C	186	84501900	L	Q	
162	84294019			C	187	84514000			C

163	84295100		C	188	84522100		C
164	84295200		C	189	84563000		C
165	84303100		C	190	84569000		C
166	84303900		C	191	84571000		C
167	84305090		C	192	84581100		C
168	84381000		C	193	84621090		C
169	84391000		C	194	84629100		C
170	84392000		C	195	84629900		C
171	84393000		C	196	84659600		C
172	84413000		C	197	84712031		C
173	84414000		C	198	84742000		C
174	84431900		C	199	84743100		C
175	84435000		C	200	84775100		C

(Continued)

No.	HS 8 digit codes	(i)	(ii)	(iii)	No.	HS 8 digit codes	(i)	(ii)	(iii)
201	84781000			C	226	85252019			C
202	84789000			C	227	85252021			C
203	84804100			C	228	85252022			C
204	84807100			C	229	85252029			C
205	84834000			C	230	85253010	L	Q	
206	85023000			C	231	85253020	L	Q	
207	85042320			C	232	85253090	L	Q	
208	85044011			C	233	85271110	L	Q	
209	85044012			C	234	85271120	L	Q	
210	85044020			C	235	85271900	L	Q	
211	85044090			C	236	85272100	L	Q	
212	85174090			C	237	85272900	L	Q	

213	85178211			C	238	85276110	L	Q	
214	85178212			C	239	85273120	L	Q	
215	85184000			C	240	85273200	L	Q	
216	85199910	L	Q		241	85273900	L	Q	
217	85203100	L	Q		242	85279011			C
218	85203900	L	Q		243	85279012			C
219	85209000	L	Q		244	85281010	L	Q	
220	85211011	L	Q		245	85281020	L	Q	
221	85211012	L	Q		246	85281030	L	Q	
222	85211021	L	Q		247	85281081	L	Q	
223	85211022	L	Q		248	85281082	L	Q	
224	85219000	L	Q		249	85281083	L	Q	
225	85229030	L	Q		250	85281090	L	Q	

(Continued)

No.	HS 8 digit codes	(i)	(ii)	(iii)	No.	HS 8 digit codes	(i)	(ii)	(iii)
251	85291020			C	276	87032219	L	Q	
252	85299060	L	Q		277	87032221	L	Q	
253	85299089			C	278	87032229	L	Q	
254	85299091			C	279	87032311	L	Q	
255	85311000			C	280	87032312	L	Q	
256	85352900			C	281	87032313	L	Q	
257	85372010			C	282	87032319	L	Q	
258	85372090			C	283	87032321	L	Q	
259	85401100	L	Q		284	87032329	L	Q	
260	85445910			C	285	87032331	L	Q	
261	85447000			C	286	87032332	L	Q	
262	86040090			C	287	87032333	L	Q	

263	87012000	L	Q		288	87032339	L	Q
264	87019000			C	289	87032341	L	Q
265	87021010	L	Q		290	87032349	L	Q
266	87021090	L	Q		291	87032411	L	Q
267	87029010	L	Q		292	87032412	L	Q
268	87029090	L	Q		293	87032413	L	Q
269	87031000	L	Q		294	87032419	L	Q
270	87032110	L	Q		295	87032421	L	Q
271	87032121	L	Q		296	87032429	L	Q
272	87032129	L	Q		297	87033111	L	Q
273	87032211	L	Q		298	87033112	L	Q
274	87032212	L	Q		299	87033113	L	Q
275	87032213	L	Q		300	87033119	L	Q

(Continued)

No.	**HS 8 digit codes**	**(i)**	**(ii)**	**(iii)**	**No.**	**HS 8 digit codes**	**(i)**	**(ii)**	**(iii)**
301	87033121	L	Q		326	87042212	L	Q	
302	87033129	L	Q		327	87042221	L	Q	
303	87033211	L	Q		328	87042222	L	Q	
304	87033212	L	Q		329	87042310	L	Q	
305	87033213	L	Q		330	87042320	L	Q	
306	87033219	L	Q		331	87043110	L	Q	
307	87033221	L	Q		332	87043120	L	Q	
308	87033229	L	Q		333	87043210	L	Q	
309	87033231	L	Q		334	87043220	L	Q	
310	87033232	L	Q		335	87049000	L	Q	
311	87033233	L	Q		336	87051000	L	Q	
312	87033239	L	Q		337	87052000	L	Q	

313	87033241	L	Q		338	87053000	L	Q	
314	87033249	L	Q		339	87054000	L	Q	
315	87033311	L	Q		340	87059010	L	Q	
316	87033312	L	Q		341	87059020	L	Q	
317	87033313	L	Q		342	87059030	L	Q	
318	87033319	L	Q		343	87059040	L	Q	
319	87033321	L	Q		344	87059050	L	Q	
320	87033329	L	Q		345	87059090	L	Q	
321	8703900	L	Q		346	87071000	L	Q	
322	87041010			C	347	87111000	L	Q	
323	87042110	L	Q		348	87112000	L	Q	
324	87042120	L	Q		349	87113000	L	Q	
325	87042211	L	Q		350	87114000	L	Q	

(Continued)

No.	**HS 8 digit codes**	**(i)**	**(ii)**	**(iii)**	**No.**	**HS 8 digit codes**	**(i)**	**(ii)**	**(iii)**
351	87115000	L	Q		368	90184100			C
352	87141900	L	Q		369	90189090			C
353	89012000			C	370	90221190			C
354	89013000			C	371	90221900			C
355	89019010			C	372	90222100			C
356	89020010			C	373	90273000			C
357	89040000			C	374	90278000			C
358	89051000			C	375	90301000			C
359	90061010	L	Q		376	90304010			C
360	90065100	L	Q		377	90308990			C
361	90065200	L	Q		378	90311000			C
362	90065300	L	Q		379	91011100	L	Q	

363	90065900	L	Q		380	91012100	L	Q
364	90083000			C	381	91012900	L	Q
365	90121000	L	Q		382	91021100	L	Q
366	90158000			C	383	91022100	L	Q
367	90181920			C	384	91022900	L	Q

Notes: L = Licenses,

Q = Quotas, and

C = Canalization.

Source: MOFTEC.

Appendix C

Gravity Model for Forecasting Bilateral Trade

The gravity equations adopted in this study is of the following form:

$$\ln X_{ij} = b_0 + b_1 \ln GDP_i + b_2 \ln GDP_j + b_3 \ln DIST_{ij} + b_4 \ln C_{ij}$$
$$+ b_5 D_1 + b_6 D_2 + b_7 D_3 + b_8 D_4 + b_9 D_5 + m$$

where:

X_{ij} = export values from economy i to economy j;

GDP_i = the value in dollars of GDP in economy i;

GDP_j = the value in dollars of GDP in economy j;

$DIST_{ij}$ = the physical distance between the centres of economic activity in

economies i and j;

C_{ij} = the complementarity index between economies i and j;

D_1 through D_5 are dummy variables representing trade polices or specific economies, with a definition as follows:

$$D_1 = \begin{cases} 1 & \text{if economies i and j have a free trade arrangement between them} \\ 0 & \text{otherwise.} \end{cases}$$

$$D_2 = \begin{cases} 1 & \text{if economy j is the United States} \\ 0 & \text{otherwise.} \end{cases}$$

$$D_3 = \begin{cases} 1 & \text{if economy j is Japan} \\ 0 & \text{otherwise.} \end{cases}$$

$$D_4 = \begin{cases} 1 & \text{if economy I or j is Hong Kong} \\ 0 & \text{otherwise.} \end{cases}$$

$$D_5 = \begin{cases} 1 & \text{if economy i or j is Singapore} \\ 0 & \text{otherwise.} \end{cases}$$

It should be noted, that a variable introduced to identify a possible Linder effect on trade often enters into the above equation.

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