Greater China's Accession to the WTO:

Implications for International Trade/Production and for Hong Kong

A Paper Prepared for the

Fifth Annual Conference on Global Analysis
June 5-7, 2002
Taipei, Taiwan

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Abstract

The impact of the accession of China (PRC) and Chinese Taipei to the WTO in 2001 is estimated in this paper to be substantatial. Using a CGE model (GTAP Version 5) with 23 sectors and 25 regions China's (PRC) GDP is foreseen as increasing by almost 6%, while Hong Kong gains and Chinese Taipei loses marginally. All three economies register noticeable export increases. China's (PRC) growth is driven by a massive surge in textile and clothing production, while the automobile industry and other heavy industries will face severe restructuring problems. Focusing in on textiles and clothing trade around the world it becomes very obvious that China (PRC) will be a magnet for production, whereas economies that have profited from preferential access to certain markets (US and EU) will suffer greatly once quotas are removed by 2005. Hong Kong thereby can still profit from its role as a sourcing hub. If trade between the economies of Greater China is freed of all barriers the synergies and more efficient links would definitely enhance the growth potential, from which Taipei is bound to profit considerably. For Hong Kong the accession opens up a huge potential, but more than in the past it will have to compete with other WTO members to tap it..

Keywords: China, WTO accession, trade, CGE, GTAP, textiles and clothing, ATC

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I. INTRODUCTION AND OVERVIEW

The accession of the People's Republic of China (PRC) and Chinese Taipei to the World Trade Organization is not only an event with a global economic impact, virtually predestined to become a goldmine for GTAP research. It is also important in a very unique, symbolic manner. Let us recall: Hong Kong became a signatory to GATT in the very same year – 1986 – in which the Uruguay Round (UR) was initiated. And now, China(PRC) and Chinese Taipei have joined the WTO in exactly the same year – 2001 – in which the next major round of multi-lateral trade negotiations (MTN), the Doha Round (DR)[1], was initiated. Given the stellar economic performance of Greater China[2] economies over the last two decades, but in particular the considerable clout Greater China can now wield being inside rather than outside the WTO (see Overview I.1), there would seem to be reason enough to believe that the next round will more clearly carry signatures reflecting Greater China's preferences.

Overview I.1 – Comparing Selected Economic Indicators[a] of Major Economies – 1999

	Greater China	USA	EU15	Japan
Area[b]	9635	9365	3245	380
Population[c]	1320	275	380	125
Trade[d]	340	695	795	420
GDP[e]	1380	8200	8450	4130
GDP – PPP[f]	4550	8200	7720	2960

[a:] To some extent estimated. - [b]: 1,000sq.km. - [c]: Millions. - [d]: Billion US$. - [e]: GDP = **G**ross **D**omestic **P**roduct in billion US$. - [f]: PPP = **P**urchasing **P**ower **P**arity in billion US$.

A glance at the numbers lying behind the above indicators emphasizes this contention:

- Growth rates of GDP over the past decade for Greater China were more than 200% higher than those for high income countries (basically OECD countries). And in the case of industry value added, the growth rates for Greater China exceeded those of high income countries by over 300%.
- Exports of Greater China grew roughly 100% faster than those from high income countries throughout the decade of the 90s.
- With respect to Greater China's export performance vis-à-vis exports from all other countries to all OECD countries (see Table 12), it can be shown that growth rates of exports from Greater China always exceeded those of total OECD exports[3]. The differences ranged from

[1] While "officially" the new round is called the "Doha Round" it would seem fitting to call it the "Harbinson Round", in light of the accomplishments of the appointed head of the WTO's General Council, Stuart Harbinson, Hong Kong's WTO ambassador in Geneva. He drew the consequences of the failure in Seattle, came up with sensible compromises and succeeded in producing an agenda that could be realistically finalized in Doha.

[2] The term "*Greater China*" in this paper refers to the summation of the economies of China (PRC), Chinese Taipei and Hong Kong. It is sometimes used in referring to the impact of the accession of China (PRC) and Chinese Taipei on income, trade flows, etc. – in such cases it should be obvious to the reader that we are not also including Hong Kong in such scenarios. After all, Hong Kong already joined GATT/WTO in 1986.

[3] In Table 12 exports from Hong Kong and China (PRC) were derived from imports of the respective OECD countries from Hong Kong and China (PRC). This was done since comparable data otherwise available included re-exports. Hence the actual values shown will differ from other sources, but this means of calculations should not significantly influence either the calculation of shares or growth rates.

less than 50% in the case of Canada + USA to over 250% in the case of Japan. These trends are likewise reflected across the various commodity groupings.

While the above performance comparisons merely underline what might basically be considered to be common knowledge, the key unanswered question is: **What will happen once China (PRC) and Chinese Taipei fully enjoy the same most-favored-nation (MFN) principles already extended to the 142 contracting parties in the WTO?**

It is the purpose of this paper to lay down a first-cut overview of what the accessions could in particular for Hong Kong, Greater China and – of course – the rest of the world. It focuses on key variables, namely on income changes, trade and shifts in production/market shares. It explores the dimensions of the WTO accessions with an upgraded version of a powerful, well-known, computable general equilibrium model.

The analysis begins with a description of the structure of the model and its workings before moving on to a presentation and interpretation of the results. The results are first broken down by the various scenarios for key economic variables (specifically trade, income and production) across all 21 economies/regions. Then the results for the individual economies of Greater China – that is, for Hong Kong, China (PRC) and Chinese Taipei – are broken down for the same set of scenarios across 23 sectors.

Overview I.2 – Computable General Equilibrium Assessments of the Uruguay Round[a] – Sectoral Distribution of Welfare Effects (in Percent of Row Total)

Study[b]	Model[c]	Sectors specified					
		Agriculture	Primary	MFA	Manufact.	Services	Tariffs
1.		5		14			81
2.	I[d]	68		15	18		
	Ii[e]	38		12	49		
	III[f]	61		17	23		
3.	I[g]	9	3	35	53		
	Ii[h]	3	6	61	30		
	III[h]	3	7	50	39		
4.	I[g]	31		39			30
	Ii[h]	10		64			26
5.	I	46		29			24
	II	26		37			37
6.		34		40		14	12

[a] Drawn from François et al. (1996, Table 1, last column); please see original for specifics. – [b] Study: 1 = Hertel et al. (1995); 2 = Harrison et al. (1995); 3 = François et al. (1995); 4 = François et al. (1994); 5 = Yang (1994); 6 = Nguyen et al. (1993). – [c] The Roman numerals designate model runs carried out under differing assumptions; the reader is advised to refer to the original tables in the articles to examine in depth the structure and the underlying assumptions. – [d] Static. – [e] Dynamic. – [f] Static; not perfect competition (PC). – [g] Steady state. – [h] Steady state, no PC.

Finally, the scenarios are examined across all 21 economies/regions for those two sectors which have often played a key role in the economic development process of Asian economies in particular, namely textiles and clothing. While the relative importance of these two sectors has diminished in recent years, the degree of protection embodied in the high tariff rates plus the restrictive quotas on the importation of these products into most OECD countries from developing countries all imply that the liberalization of these sectors will produces significant welfare gains. As a matter of fact, an overview of the projected welfare gains from the implementation of the Uruguay Round agreements reveals that in these two sectors the largest gains across all major sectors could be expected to be achieved (see Overview I.2).

The essence of this study is presented in the final section, drawing conclusions thereby about what this all could mean for Greater China and in particular for Hong Kong. This covers not only areas where the largest benefits are expected to occur, but areas where difficulties might be occurring, whether of inherent nature or rooted in the protocols of accession.

II. MODELING THE LIKELY IMPACT OF GREATER CHINA ACCESSION TO THE WTO – SOME EXPLANATIONS AND CAVEATS

Introduction

We next turn to a description of our modeling assessment of the likely impact of the accession of Greater China to the WTO, which – in simple terms – means that we will examine the changes which will occur with respect to output, foreign trade and income when China (PRC) and Chinese Taipei become WTO members. The "computable general equilibrium" (or CGE) model we use allows assessment of the economic impact of regional, multilateral and global trade agreements. It likewise permits the assessment of liberalization across broad sectors of individual economies, including interactions between sectors that may result. The estimated effects from the CGE model at the national level, of course, reflect the interactions with neighboring economies as well as with economies/regions in other parts of the world.[4]

Some Background

The GTAP5 model we use (GTAP = Global Trade Analysis Project) belongs to a family of economic models characterized by an input-output structure (based on regional and national input-output tables) that explicitly links industries in a value added chain from primary goods, over continuously higher stages of intermediate processing, to the final assembling of goods and services for consumption. Linkages between sectors are both direct (like the input of steel in the production of automobiles) and indirect (like use of mining inputs into steel, which thus feed indirectly into automobiles, or rather feeds into machines which then manufacture automobiles). The model captures these linkages by modeling firms' use of factors and intermediate inputs when producing goods and services. The most important aspects of the model can be summarized as follows:

i. it covers all world trade and production;
ii. it includes intermediate linkages between sectors;
iii. and it allows for trade to affect capital stocks through investment effects, hence we mode medium to long-run investment effects.

In the last two decades, the use of CGE models to estimate the impact of trade liberalization has moved from academic settings to those institutions (like the World Bank, IMF, OECD and the WTO) dealing specifically with trade policies (see the discussions by Francois 2000; Francois et al . 1996; and Francois and Shiells 1994). While the results of these exercises are hampered both by the assumptions and the quality of the data available, their relevance in estimating the possible overall pattern of impact – i.e. both of direct and indirect nature – has proved to be helpful in policy formulation and the assessment of existing economic policies.

The Data Used in the Model

The data come from a number of sources. Data on production and trade are based on national accounting data linked through trade flows and drawn directly from the Global Trade Analysis Project (GTAP) version 5 dataset. (GTAP 2001; see Reinert and Roland-Holst 1997 for a discussion of the organization of such data for CGE models). The GTAP version 5 dataset is benchmarked to 1997, and includes detailed national input-output, trade, and final demand structures. Significant modifications have been made to the basic GTAP database. The basic social accounting and trade data are supplemented with trade policy data, including additional data on tariffs and non-tariff barriers. We have updated the dataset to better reflect actual import protection for goods and services (the basic GTAP database includes no information at all on trade barriers for services).

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[4] It would also be possible – if the necessary data existed at regional or state levels – to map the macro-economic and global results to the respective structure of production/employment at state levels in China (PRC). Given the large regional disparities in levels of development and major differences in the economic structures, the results of such an analysis would develop an even clearer picture of the national ramifications of a WTO accession.

Basic data on current tariff rates come from the UNCTAD and WTO data on applied and bound tariff rates. Most importantly we accessed the tariff rates from the WTO protocols of accession for China (PRC) and Chinese Taipei. These are accordingly integrated into the core GTAP database. They are further supplemented with data from USTR and USITC on regional preference schemes in the Western Hemisphere. For agriculture, protection is based on OECD and USDA estimates of agricultural protection, as integrated into the GTAP core database. Tariff and non-tariff barrier estimates are further adjusted to reflect remaining Uruguay Round commitments, including the phase-out of remaining textile and clothing quotas under the Agreement on Textiles and Clothing (the ATC). Data on post-Uruguay Round tariffs are taken from recent estimates reported by Francois and Strutt (1999). These are taken primarily from the WTO's integrated database, with supplemental information from the World Bank's recent assessment of detailed pre- and post-Uruguay Round tariff schedules. All of this tariff information has been concorded to our model sectors. Services trade barriers are based on the estimates described in the Technical Appendix.

While the basic GTAP dataset is benchmarked to 1997, and reflects applied tariffs actually in place in 1997, in this study we of course want to work with a representation of a post-Uruguay Round world, that is before China (PRC) and Chinese Taipei have entered it. To accomplish this we have done the following:

- Before conducting any policy experiments whatsoever, we first run a "pre-experiment" in which we implement the remaining Uruguay Round **tariff cuts** across all countries except China (PRC) and Chinese Taipei. For the most part these cuts are already in place in the 1997 benchmark dataset.
- At the same time, the data are also adjusted to reflect regional preference schemes in Latin America (not represented in the core GTAP database).

The dataset we work with for the actual experiments is therefore a representation of a notional world economy (with values in 1997 dollars), wherein we have full Uruguay Round tariff cut implementation. We then structure the analysis as follows:

- We examine the elimination of **non-tariff barriers** incorporated within the ATC phase-out.
- Then the Greater China accession with reference to the above-mentioned post-UR tariff benchmark and the services liberalization is carried out.

The national accounts data have been organized to 23 sectors and 25 regions. (Note that we have included some detail on the value added chain linking fibers into textiles and clothing production, to better capture the initial impact of the ATC on our base scenario.) The sectors and regions for this 23x25 aggregation of the data are detailed on the next page.

A Brief Overview of the Analytical Structure

On the models production side, in all sectors, firms employ domestic production factors (capital, labor and land) and intermediate inputs from domestic and foreign sources to produce outputs in the most cost-efficient way that technology allows. In these sectors, products from different regions are assumed to be imperfect substitutes in accordance with the so-called "Armington" assumption.

This product differentiation by country/region of origin and destination is a very important feature of the model. Domestic demand in each region is made up of goods which are differentiated by country/region of origin (i.e. there are domestic goods and imports from trading partners). These goods are aggregated into a single consumption good for intermediate and final use with a constant elasticity of substitution as suggested by Armington. Basically this assumption allows the demand for generically similar products

Overview II.1 Regions/Economies and Sectors

Model Regions/Economies		Model Sectors	
Economies	***Description***	***Sectors***	***Description***
Hong Kong	**Hong Kong**	Wool	Wool
China (PRC)	**People's Republic of China**	Other natural fibers	Natural fibers (cotton etc.)
Chinese Taipei	**Chinese Taipei**	Primary food	Primary food production
Japan	Japan	Other prim. prod.	Other primary production
Korea	Korea	Sugar	Sugar
ASEAN5	ASEAN5 member states[a]	Processed food	Processed food, tobacco, and beverages
Vietnam	Vietnam		
India	India	Textiles	Textiles
Bangladesh	Bangladesh	Clothing	Wearing apparel
Other South Asia	Other South Asian economiesb[b]	Leather goods	Leather products
Australia	Australia	Chem/rubber/refine	Chemicals, refinery products, rubber, plastics
New Zealand	New Zealand	Primary steel	Steel refinery products
Canada	Canada	Primary NF-metals	Non-ferrous metal products
United States	United States of America	M.vehicles, parts	Motor vehicles and parts
Mexico	Mexico	Electronics	Electronic machinery and equipment
Brazil	Brazil	Other mach/equip	Other machinery and equipment
MERCOSUR, other	MERCOSUR[c]	Other manufactur	Other manufactured goods
CBI	Caribbean Basin Initiative economies[d]		
ATP	Andean Trade Pact economies[d]	W-sale/ret. Trade	Wholesale and retail trade services
Chile	Chile[d]	Transport services	Transportation services (land, water, air)
OtherLatAm	Other Latin America[d]	Communications	Communications services
European Union(15)	European Union, 15 economies.	Construction	Construction
Turkey	Turkey	Fin/ins/r. estate	Finance, insurance, and real estate services
Africa, MidEast	Africa and the Middle East	Comm. Services	Other commercial services
Rest of world	Rest of World	Other services	Other services (public, health, etc.)

[a]ASEAN5 includes Philippines, Thailand, Indonesia, Singapore, and Malaysia

[b]Pakistan, Sri Lanka, Nepal

[d]MERCUSOR includes Argentina, Paraguay, Uruguay. Brazil is represented separately. [d]Not treated in tables and diagrams

(e.g. red wine) to be differentiated by source (e.g. France vs. Thailand)[5]. Domestic production in each economy/region is allocated among differentiated destinations (i.e. domestic markets and exports to trading partners). This specification also allows for substitution among destinations in response to commercial policy and exchange rate changes.

Prices on goods and factors adjust until all markets are simultaneously in (general) equilibrium. This means that we solve for equilibria in which all markets clear. While we model changes in gross trade flows, we do not model changes in net international capital flows. Of course, this does not by any means preclude changes in the level of gross capital flows.

Another important feature of the model involves a dynamic link, whereby the static or direct income effects of trade liberalization induce shifts in the regional pattern of savings and investment. These effects have been explored extensively in the trade literature, including Baldwin and Francois (1999), Smith (1976, 1977), and Srinivasan and Bhagwati (1980). Several studies of the Uruguay Round have also incorporated variations on this mechanism. Such effects compound initial output welfare effects over the medium-run, and can magnify income gains or losses. How much these "accumulation effects" will supplement static effects depends on a number of factors, including the marginal product of capital and underlying savings behavior. In the present application, we work with a classical savings-investment mechanism. This means we model medium- to long-run linkages between changes in income, savings, and investment. The results reported here therefore include changes in the capital stock, and the medium- to long-run implications of such changes.

The Policy Experiments

We turn now to a description of the actual policy experiments. The experiments are outlined in Overview II.2. These involve alternatively a partial implementation of the FTAA, and a full implementation. The partial implementation corresponds to the likely mid-point of FTAA implementation, with 50% reductions in tariff barriers, a partial lifting of non-tariff barriers (modeled as a 50% reduction in the import tax equivalent of NTBs), and partial liberalization of services trade (modeled as a 50% reduction in the trading costs associated with services barriers).

Overview II.2 – Experiment Definitions

1	ATC quota phaseout for all current WTO Members
2	ATC quota phaseout for Mainland of China (PRC)
3	ATC quota phaseout for Chinese Taipei
5	Implementation of China's (PRC) WTO accession package
	industrial tariff reductions
	agricultural liberalization
	liberalization of cross-border services trade
	cost savings in textiles and clothing
6	Implementation of Chinese Taipei's WTO accession package
	industrial tariff reductions
	agricultural liberalization
	liberalization of cross-border services trade
8	Full accession (sum of 1+2+3+5+6)

[5] What this means is actually quite simple: if prices of French red wine increase relative to those of Thai red wine, then the demand for French red wine will not decrease to the degree that night be expected based on normal price elasticities. The reasoning behind this is primarily based on the realization that seemingly like products are actually different. Of course, at some point in time reality may overtake subjectivity, as perhaps occurred in the case of Californian wines. Early on they were not considered to be much better than rotgut and thus a 100% relative increase in prices of palatable French red wine would hardly have had the slightest impact on the demand for Californian. But now, after being showered with acclamation, relative price changes between Californian and French wines would more closely reflect changes in demand between very similar products.

Of particular importance in this study is our attempt to move the structure of the model as close as possible to reality in the real world. Hence, within the scenario "Implementation of China's (PRC)WTO accession package" is a step called "cost savings in textile and clothing." We have designed this step to do justice to the overwhelming opinion of CEO's or similarly positioned executives in some 15 major companies interviewed in Hong Kong that, when China (PRC) is finally a full member of the WTO and quotas and other non-tariff barrier constraints on T&C products have been removed, they will shift production to China. Since such views were expressed by Hong Kong entrepreneurs, who operate around the world, it seemed logical to attempt to portray this as a measure which would impact on the relative competitive position of firms manufacturing in China.

In particular, those executives we interviewed were of the opinion that conditions for doing business in China (PRC) would be improved by joining the WTO **beyond the changes in relative prices due to tariff reductions and market access improvements stipulated in the protocol of accession**. This involves not only changes in external conditions, but also improvement in the conditions for doing business in China (PRC). This includes the rules and administrative treatment of firms doing business, the underlying infrastructure, and related factors that impact on the general business climate.

To reflect these changing conditions, we introduced in this scenario an assumption which captures an emergent 10% cost advantage for firms doing business in China (PRC).[6] What this does in the context of the model is to simply divert the demand for products away from other countries to China (PRC). Globally, to the extent the firms we interviewed are correct (and there is little reason to doubt them), we therefore expect a shift in production toward China. Those companies that take advantage of these opportunities are presumed to be strategically better off; those that do not will lose market shares.

What does this imply for Hong Kong and Chinese Taipei companies? We expect that Hong Kong and Chinese Taipei companies, with production facilities throughout Asia and elsewhere, would be shifting some of them to China (PRC). The same applies to companies merely outsourcing in other countries; i.e. they would accordingly shift their demand to China (PRC). However, if individual companies do not react in this way, they will simply find themselves losing market shares. Because all this is modeled as a relative shift, it allows for other changes in business conditions (like dumping actions, NTBs, etc.) The point is that, given the underlying policy environment in the model, this scenario identifies the likely impact of the relative change in business conditions. For firms in Hong Kong and Chinese Taipei, the message is that these changing conditions represent an opportunity. If they do not take advantage of it, other firms will.

It should be noted that – despite the normal assumptions in the model that exporters pocket quota rents – we do not really know whether quota rents accrue to the exporters or the importers. That quota rents might be shifting to importers in industrialized could well be possible in this era of Walmarts and Karstadts. While we did not run a special calculation to this extent, such an assumption would increase the welfare affects of liberalization in those economies (e.g. Hong Kong, China (PRC) which now "profit" from the ability to pocket quota rents.

Some Limitations of the Model

Since this exercise is based on an economic model, it is useful – as with all models – to keep the limitations of the exercise in mind. First, the model cannot forecast all future events. It is highly likely that unanticipated economic, political, and/or natural events will occur and will have important effects on some of the agents and activities identified in the model. (Consider the East Asian financial crisis, which was not included in Uruguay Round assessments, or the major earthquake in Taiwan, or the ramifications of the recent terrorist attacks on the USA.) In this regard, it helps to think of the model as saying "in a world like the one we currently observe and with the assumed structure, if policies were different, this

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[6] The 10% figure seemed to be a reasonable estimate based on statements by the interviewed companies in the T&C industry. If the actual percentage advantage was higher or lower the corresponding adjustments would have to be made in the results.

world would then be different in the ways reported in the tables." This is not the same as saying we are forecasting with precision. Rather, in the absence of surprises (which will occur of course in the next decade), we are making estimates of likely economic effects.

Another limitation is the simplifications embodied in the model. When we model economic policy, we try to develop a reasonable, though stylized representation of complex policy, demand, and production relationships. The trade-off is between keeping the model workable, and keeping it realistic enough to actually be useful. When building computational trade models, there are basic decisions that have to be made at the outset. These include working in partial or general equilibrium, using a static or dynamic framework, working with a single or multi-country model, and working with a single or multi-product model. Hence, all models are an exercise in informed compromise. Uncertainties arise because of problems with underlying data, estimates of elasticities, and necessary assumptions about reduced-form economic structures. Having said this, we should emphasize that this class of models does actually do well in identifying resource, production, and trade shifts. For example, Kehoe (1996) provides a comparison of CGE model-based estimates of the impact of EU Membership on Spain with actual experience. The CGE model performed quite well, and identified effects not anticipated at the time.

III. THE EFFECTS OF A WTO ACCESSION

Introduction

In the following sections the reader needs to be aware of the time frame covered when we examine the results of the China's (PRC) and Chinese Taipei's accession to the WTO. as produced by the model described in Chapter II. By definition, we are modeling equilibrium conditions in multiple markets. This means that we are modeling the way markets are expected to look *after* firms have adjusted their behavior to reflect changes in market conditions. This adjustment is a complex process, involving the shifting of resources between sectors through hiring and firing of labor, installation of new plant and equipment, and decisions not to replace old plant and equipment as it depreciates. It also involves the shifts in consumer demand that follow from changing incomes and from changing relative prices. Obviously, all this does not happen overnight. Rather, this process, as reflected in the model, can be expected to take up to 7 years depending on the type of policy shock, but depending also on the industry involved (e.g. for clothing industry much shorter). We are not modeling a 7-year adjustment path (i.e. what happens each month, quarter, or year), but rather we are looking at what happens once the adjustments have taken place and the market has settled down to reflect the new expenditure and production patterns that have emerged.

The scenarios – specifically broken down step-by-step in the table headings – remain the same throughout the entire analysis and correspond to the modeling sequences described in the prior chapter. This allows the reader to more easily draw comparisons. The calculations are shown in the following sequence:

- First, the results are examined for the changes estimated by the model for specific macroeconomic variables (i.e. gross domestic product and exports) across all regions/economies used in the model (Tables 1 and 2).
- Second, the impacts of Greater China's WTO accession for Hong Kong, China (PRC) and Chinese Taipei are examined across all the sectors in the model (Tables 3 –8) for output and exports. In these sectoral breakdowns certain economic activities (rows) of particular relevance to Hong Kong have been emphasized by printing them in bold-faced type.
- Third, the impact of the WTO accessions for the exports of the textile and clothing industries (Tables 9 and 10) are examined across all countries.

The final tables provide useful background on the structure of product/service sector exports. Table 11 contains data for exports to 14 regions/countries from Hong Kong, China (PRC) Chinese Taipei. Table 12 complements GTAP data by drawing on OECD sources for exports disaggregated by relevant commodity groups for Hong Kong, China (PRC) and Chinese Taipei; they reveal structure (shares) and trends (annual growth rates) of trade flows to all OECD countries. For comparison purposes similarly disaggregated imports of the OECD countries are also shown. In this table higher-than-OECD-average export growth rates for Greater China economies are highlighted in bold –faced type.

The Macroeconomic Effects of Accession

Gross Domestic Product (GDP): We next turn to estimates of the macroeconomic effects of accession. Beginning with the elimination of ATC quotas only for WTO members and focusing on percent changes in GDP (Table 1, col. 1) it is obvious that the new WTO members of the Greater China economies must lose out. The reason for this is simply that other economies profit from the newly created quota-free access for textile and clothing (T&C) products to major markets. It is in particular the Southeast Asian and the other South Asian countries, but especially India which profit from the improved access. The reasons underlying Hong Kong's losses can – in addition to being subjected to tougher competition from economies whose access to markets in industrialized countries was previously more highly restricted by smaller quota allocations – be primarily attributed to the loss of quota rents.

However, loosing out far more than the Greater China economies are those which enjoyed preferential access to the markets of the EU15 and North America respectively, namely Bangladesh and Mexico. And, when China (PRC) + Chinese Taipei become WTO members, hence no longer facing quotas, these losses then double, in the case of Bangladesh amounting to –0.54 and in the case of Mexico to over –2%.

All in all, the elimination of the ATC quotas induces an increase in GDP by over 1% for China (PRC) and a modest 0.18 % for Chinese Taipei. Hong Kong, on the other hand, loses out overall by –0.12%. While actually profiting marginally from China's (PRC) gaining quota-free access to major markets, it loses almost as much again from Chinese Taipei's accession. The driving force behind this improvement vis-à-vis China (PRC) must be seen in Hong Kong's function as a service hub, but not only just for the textile and clothing industry. Referring to Hong Kong's export structure it can be determined that those services associated with such hub functions (i.e. wholesale/retail trade, transportation services and commercial services) account for close to 50% of export receipts[7].

Of course, when all the ramifications of the entire WTO accession package are taken into consideration, **the bottom line for China (PRC) is a massive 5.8% increase in GDP**. **Hong Kong, on the other hand, reveals just a slight increase (0.15%), but Chinese Taipei suffers a loss of about a third of a percentage point**. This loss suffered by Chinese Taipei is the result of its own tariff and service sector liberalization and is rather sizeable (almost –1%). It is furthermore interesting to note that the total liberalization package prompted by the WTO accession process did not lead to a large enough increase in competitiveness to permit Chinese Taipei to register a gain over any of the economies/regions used in the model[8].

If there is an overall message to be drawn from these initial results (in Table 1) it is that China's (PRC) WTO accession will be for the benefit of nearly all regions/economies. In many cases the pattern which evolves after the liberalization of ATC quotas for Greater China is not significantly changed by the total liberalization of tariffs and improved access to the service sectors or rather changes point in the same direction. For instance, in the case of India the initial gains, mentioned when the textile and clothing quotas were removed, turned into large losses across the remaining scenario, thereby more than halving the benefits. There are notable differences, however, as in the case of Bangladesh, which loses across the ATC liberalization scenarios, but regains about 75% of these losses during the tariff and service sector liberalization scenarios.

There are two interesting patterns which evolve and reveal how well the model picks up prevailing interactions:

- While Japan and the ASEAN5 countries just marginally profit from China's WTO accession, the results for Korea and Vietnam reveal a definitely larger increase in GDP. Perhaps more

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[7] Note that the *wholesale & retail trade* sector also incorporates activities re. the importation/exportation of merchandise trade. It thus covers value-added in entrepot trade plus revenue produced by port facilities themselves. Since it only insufficiently picks up domestic purchases by foreigners, its share is underestimated.

[8] In more economic terms this is stating that while Chinese Taipei had a rather optimal tariff structure, China's (PRC) tariff structure was so highly distorted and redundant that its restructuring in the course of the WTO accession process produced significant welfare gains.

interesting in this respect than just the absolute size of the change, is the structure of changes. Whereas Korea profits more from China's (PRC) accession, in the case of Vietnam it is Chinese Taipei. In other words, the model's results would seem to correctly reflect what would normally be deduced from prevailing economic trade structures.

- Of all the countries losing as a result of China's (PRC) WTO accession it is Mexico which can expect to be most negatively affected. After all, as a member of the North American Free Trade Agreement (NAFTA) it profits from quota-free access to the US and Canadian markets in the area of textiles and clothing. On top of that, it enjoys tariff preferences and special market access arrangements in other product and service sector areas as well. Hence, to the extent that these preferences are removed (as in the case of quotas) or reduced (as in the case of tariffs) the advantages for Mexico decrease and accordingly negate the positive effects of liberalization. The model reveals precisely such an outcome: On top of an initial loss of –1.07% due to the elimination ATC quotas by all WTO members, an additional loss of –0.99% can be attributed to China (PRC) no longer being subjected to ATC quotas and –0.77% due to the tariff cuts and services' liberalization.

Exports: Generally speaking, the results for exports (see Table 2) widely reflect the overall results of model for the economy in terms of changes in GDP. Beginning with an examination of the overall impact of the elimination of ATC quotas, it is primarily only Hong Kong, Bangladesh and other South Asia which show significant shifts vis-à-vis the GDP results. In all three cases does the sign of the overall impact of the elimination of ATC quotas shift from negative to positive. This switch, which was particularly large in the case of the South Asian economies, can be attributed to relatively large decreases in the terms of trade.

The size of the impact of the elimination of ATC quotas on Greater China's exports is considerable in the case of China (PRC) – +5.87% – and very considerable in the case of India – +12.91%. That the other South Asian economies also exhibit the next highest export growth rates underlines the potential which stands to be tapped if these economies can maintain efficient economic policies. The reason for Mexico and Turkey being the two largest losers in this constellation is – as noted above – due to their loss of preferential treatment as concerns the elimination of quotas.

In turning to the overall impact of Greater China's WTO accession on exports, the pattern can be seen to be similar to GDP. While the gains for China (PRC) – +23.08% – dominate even more than in the case of GDP, it is Chinese Taipei – +7.38% – which this time reveals major gains as a result of the tariff cuts and liberalization in the service sectors. In light of these two large gains on the part of China (PRC) and Chinese Taipei, it is hardly surprising that – given the strong links and interactions between Hong Kong, China (PRC) and Chinese Taipei – Hong Kong achieves the fourth highest increase among all the economies included in the analysis, namely +2.37%.

Despite the relatively large size of these results for Greater China it is quite probable that in reality the growth rates could be larger. The reason for this must be seen in the nature of the model used, which calculates the impact of tariff rate changes and services sector liberalization based on specific reaction parameters. However, in the case of Greater China the trade ties between China (PRC) and Chinese Taipei have been constrained by non-tariff barriers, which have led to highly distorted trade flows between the two economies. While the GTAP model data base does try to correct for such trade diversion via Hong Kong, it is quite probable the actual trade flows are higher. Furthermore, to the extent that Greater China does develop into an economic area where both tariff and non-tariff trade barriers between the individual economies are but of nominal nature, then agglomeration economies may be engendered, export growth rates accordingly accelerated and GDP expanded at an even faster rate.

Needless to say, all of the above conclusions with respect to trade between China (PRC) and Chinese Taipei rest on the assumption that WTO most favored nation (MFN) principles are correctly adhered to once these two parties become WTO members. This is a big step from the current situation, where direct trade links between these two economies are virtually non-existent. And it is a step which carries with it the possibility of shifting economically driven trade flows into the realm of politics. What will happen if

one party feels that exports to the other party are not being treated in line with WTO principles? In other words: what will happen if prevailing non-tariff barriers to trade between China (PRC) and Chinese Taipei are only incompletely removed?[9] Without being able to answer this question, it is assumed in this paper that WTO MFN principles apply between China (PRC) and Chinese Taipei. In doing so it is at least possible to show how much is at stake if they are not heeded[10].

Table 2 also reveals how sharply the South Asian economies lose as a result of China's (PRC) entering the WTO. As a matter of fact, all the gains made after quota liberalization for Bangladesh and other South Asian economies are wiped out by the time the final tariff and liberalization scenarios are carried out. While India "only" suffers a 50% drop in the increase in exports registered after the elimination of ATC quotas for WTO members, it does chalk-up the largest decrease as a result of the tariff reductions and services sector liberalization by China (PRC).

Among the other economies which profit from Greater China's WTO accession are all the industrialized economies. In particular the United States gains noticeably from Greater China's WTO accession, whereby almost 60% of the increase can be attributed to the elimination of ATC quotas and 40% to tariff cuts and services liberalization. It is the fifth largest increase achieved by the economies in the model. This must be considered to be good news for Greater China since it was the United States which negotiated the ominous "triple jeopardy" clauses into China's (PRC) Protocol of Accession.[11]

But even if the promised liberalization moves ahead, there is the problem of contingent protection under the standard GATT/WTO rules. Textile and clothing trade has been somewhat sheltered from standard safeguard measures and but few measures regarding dumping of T&C items have been instituted. However, once the ATC cover is lifted, the U.S. and EU may feel compelled to take new measures under safeguards or dumping and countervailing duty regimes. The rush of developing countries to implement anti-dumping regimes of their own, has greatly weakened their moral case against the use of such mechanisms in the OECD. It is quite probable that the number of ADMs initiated this year will be the highest ever (see Spinanger, 2002).

The overall results of the estimates of Greater China's WTO accession are comforting to the extent that most major economies profit from these developments, and hence have a self interest in ensuring that

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[9] The reader must realize that the WTO can only deal with trade policy issues and market access behavior not conforming to WTO principles if one of the contracting parties involved explicitly brings the issue to the attention of the responsible WTO dispute settlement bodies. If, however, two contracting parties – for whatever reasons possible – decide to ignore bilateral infringements of WTO principles, then this is solely within their own jurisdiction. This is all the more the case, given that the WTO operates strictly between contracting parties, without interventions from NGOs or even individuals from the affected economies. The latter would only be relevant if the WTO recognized consumer property rights within the economies of individual contracting parties, as it does in the case of industries indirectly via demands on governments

[10] What this implies for Hong Kong is of course not in the model either, as assumptions about new trade routes between China (PRC) and Chinese Taipei would have to be made. Whatever, the impact on Hong Kong would be considerable, knowing how important the value added in carrying out trade and entrepot trade has become. This would be an exercise in itself, and one which would highlight how important it is for Hong Kong to ensure that its hub function is second to none in the area. Since it is obvious that over the longer run the physical port facilities in Hong Kong could have difficulties in being able to handle to massive increase in trade which China's WTO entry is expected to induce, the question would have to be asked as to how its global hub function can be preserved. One possibility would be to specialize on offering premium services with more efficient upstream linkages and faster connections one the downstream side. Such premium services – which could also include fast inter-modal interfacing in Hong Kong – would help compensate for the disadvantage of not being directly next-door to major markets in able to be able to better participate in just-in-time manufacturing linkages.

[11] The three contingent protection clauses can be described as follows The first applies to individual textile and clothing products, which can be hit with special safeguards over a **4 year period** through 2008. The second covers all individual products – including textile and clothing products – and these can be hit by safeguards **over a 12 year period.** The third deals with China (PRC) and applies to those cases where anti-dumping proceedings have been initiated against the economy. In such cases the Chinese (PRC) economy will be considered a non-market economy over a period of **15 years after accession**, when calculating antidumping margins..

these profits actually do accrue to them. However, the dangers lie in those areas which have long been sensitive to increased foreign competition. Let us accordingly move on to an examination of the sectoral impact of Greater China's accession to the WTO.

The Sectoral Impact of the WTO Accessions

In reviewing the impact of Greater China's accession to the WTO the results of the 23 sectors shown in Overview II.1 are presented here for each of the three economies (Tables 3-8). In the case of Hong Kong the value of the exports from the seven sectors considered to be important accounted for roughly 80% of its exports in the baseline data set.[12]. In the case of China (PRC) the shares of these sectors accounted for almost 40% of its exports; the corresponding shares for Chinese Taipei amounted to almost 50%. For Greater China (i.e. the sum of Hong Kong, China (PRC) and Chinese Taipei) the shares accounted for roughly 50% of its exports.

In interpreting these numbers the reader should refer to the bottom line in the respective tables, which is drawn from the overall results for output (Table 1) and exports (Table 2). Stress will be placed in this discussion on Col. 4, which covers the total elimination of quotas and Col. 7, which covers the tariff cuts and services liberalization, but in particular on Col. 8, which shows the total impact of Greater China's WTO accession.

The Sectoral Results for **Hong Kong** (see Tables 3 and 4)

- The *output* losses accruing to Hong Kong's **textile and clothing industries** (–9.35% and –6.71% respectively) basically do no more than reflect what has already been going on for years in these two sectors, which account for some 20% of Hong Kong's exports of goods and services. While the elimination of ATC quotas still left a sizeable increase in output (+2.69% and +8.25% respectively), the tariff cuts and services liberalization drastically undermined the competitiveness of these sectors.

  The impact on *export*s is, however, not as devastating (+2.73% for textiles and –2.32% for clothing), given Hong Kong's role as a regional hub. And actually the overall all results for the T&C sector are no doubt considerably more positive for two reasons. First of all the highly positive impact of the WTO on China (PRC) means that all those Hong Kong companies which have production and sourcing ties with China[13], will be strongly profiting from the accession, but this does not show up in the results, since capital flows are not picked up in the GTAP model. Secondly, some of the impact can be found in the wholesale/retail trade sector which picks up entrepot trade.

- The **electronics industry**, which accounts for almost 11 % of Hong Kong's exports, reveals an above average increase in output (+2.42%), stemming entirely from China's (PRC) tariff cuts and services liberalization. Here, and in the area of other machinery & equipment (covering thereby the toy industry as well), the cross border division of labor has no doubt proved to be of utmost importance. This can be seen all the more when the change in the value of exports is examined: the tariffs cuts and liberalization of the service sector in China (PRC) induce an increase by some +3%.

- The **wholesale and retail trade sector**, accounting for almost 40% of Hong Kong's exports, does not profit from the Greater China accession to the degree that one might expect, even if the growth on the export side (i.e. due to the tariff cuts and service sector liberalization) is not insignificant. On the one hand weak performance is due to the indirect impact of the ATC quota elimination. On the other hand there are no doubt very weak linkages between the real retail sector and China (PRC).

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[12] See also background on the export performance of Hong Kong, China (PRC), Chinese Taipei and Greater China to OECD economies in Table 12.

[13] In recent years it has been estimated that perhaps 50% of the exports of textile and clothing products from China were directly or indirectly attributed to Hong Kong companies.

- **Transport services**, which account for 4.3% of exports, expand just marginally more than output in Hong Kong as a whole. However, exports of transport services – which is where the impact of the WTO accession would be expected – expand considerably faster than all other service exports. This has to be viewed with a certain degree of caution, since the model does not take into account the probable development of direct links between China (PRC) and Chinese Taipei.
- **Financial/insurance/real estate services** (less than 1% of exports) profit from the tariff cuts and services liberalization, but the indirect impact of the ATC quota liberalization dampens the overall impact. This becomes even more apparent in the export sector, where the impact of tariff cuts and services liberalization more than compensate for the negative impact of the quota elimination. It also has to be remembered that when China (PRC) opens up its service sector to other countries und most favored nation (MFN) conditions apply, any advantages Hong Kong companies might have had will disappear. Hence the relatively small output impact reflects the increase in competition.
- In the area of **commercial services,** which accounts for 3.5% of Hong Kong's exports, small, but above-average output gains are registered. But more important are the sizeable gains made in the export sector, namely +3.2%.

Overview of the Sectoral Results for **China (PRC** - see Tables 5 and 6)

There are two major messages which can be read out of the results of the impact of China (PRC) joining the WTO.

- First, the elimination of quotas on the exportation of textile and clothing products, the tariff cuts on textile and clothing products, plus the increased competitive position of China with respect to producing textile and clothing products (an imputed additional 10%) drives the overall gains registered by changes in output and exports. Although these gains may seem exceptionally large, they basically do no more than reflect the annual growth path that China has followed over the last ten years.
- Secondly, the major restructuring which will have to occur in the automobile industry is fully in line with what was expected. Very high tariff rates combined with regionally restricted production facilities, led to a degree of inefficiency and hence non-competitive products. Hence, opening up China's (PRC) market to competition means massive upheavals, and this seems to be already happening. But it also implies that new firms wanting to establish production facilities will be able to do so and then offer products at significantly lower prices.

All this means that opportunities are being created in China (PRC) for entrepreneurs, who can perceive of the chances being created by the WTO accession process. In particular, foreign firms should be able to move into these areas and/or cooperate with firms in these areas in order to produce at prices, which will not only allow the consumers in China (PRC) to increase their welfare, but also permit export markets to be serviced. Obviously, all these developments mean that other economies around the world will come under considerable pressure.

Overview of the Sectoral Results for **Chinese Taipei** (see Tables 14 and 15)

Given the fact that the degree of protection afforded by the Chinese Taipei tariff structure was relatively moderate, there are two sectors where major shifts are likely to occur, even if the importance of these sectors for trade is minimal. The sectors are clothing and motor vehicles and the nominal rates of protection lie 200% to 500% above other manufactured products. In the case of clothing the sector will no doubt continue its migration to the China (PRC), but perhaps be supplied to some degree by the textile industry which showed a sizeable gain both in domestic output as well as in exports. As concerns the automobile industry, it will be subject to a similar process as in the case of China (PRC). However, given the size of the Chinese Taipei market, it will hardly draw in numerous new producers, but rather tap the potential that lies in other economies.

It needs to be underlined again in connection with the interaction between China (PRC) and Chinese Taipei that the results of the model – given the less than normal economic ties over the past years between

the two economies – may well be underestimates when and if MFN relations between the two new WTO members are allowed to flourish. Should, however, both new members prefer to maintain prevailing bi-lateral restrictions, then the results of the model will only be marginally dampened, since its inherent structure emphasizes global rather than bilateral ties. Of course a more basic problem arises in that the impact of Chinese Taipei's trade on Hong Kong and China (PRC) is probably only incompletely captured in the data base.

The Impact of the WTO Accessions on the Textiles and Clothing Sectors

Given the above-mentioned massive shift of resources caused by the elimination of ATC quotas and the liberalization of tariffs, it seems to be essential to highlight this sector a little more. While it might seem like dealing with dieing remnants of the "old economy", this sector still commands almost 25% of China's (PRC) merchandise exports and up to over 80% in the case of Bangladesh. And needless to say, if there ever was an industry which indelibly put its stamp on the economic success of Hong Kong for a long period of time, then it was the textile and clothing industry (TCI).

Although the TCI is still Hong Kong's largest manufacturing industry (about 40% of manufacturing value-added and 50% of domestic exports), the manufacturing sector itself now accounts for a mere 5% of GDP as opposed to roughly 40% some 30 years ago. Unfortunately these latter figures largely misconstrue the current relevance of Hong Kong's TCI, as they fail to recognize its unique role in producing and sourcing globally from an open and relatively undistorted economy. By drawing on inputs at world market prices or producing elsewhere when new locational advantages (be they due to changes in economic policies or the availability of T&C export quotas to industrialized countries) were perceived as being spawned, the Hong Kong TCI has developed large human capital and service sector capacities. This has allowed it to flexibly and efficiently act and react globally. That it still can play in the big league is attested to by the fact that it is still the world's third largest exporter of clothing products (behind China and Italy).

We have seen above what happens when the rest of the ATC quotas are removed, in the real world by the year 2005 But what will happen when accordingly the rents from these quotas in Hong Kong (assuming they currently do remain there), as well as from those in other countries around Asia in which Hong Kong firms have production facilities or source T&C products, disappear? Or rather, what happens to changes in trade flows and welfare if quota rents in this age of Walmarts et al are already being pocketed by the importers and not the exporters?

But no doubt even more important, what will China's accession to the WTO mean for Hong Kong Kong's T&C industry? After all, it is estimated that over 50% of China's clothing exports today (which account for 17% of world trade in clothing products) are directly or indirectly due to the involvement of Hong Kong companies. We have seen how large the shift of demand to China might be. But which countries will be most affected? To what degree and how will the Hong Kong economy be affected? And finally, what might be the ramifications of applying the above mentioned surge clauses, built into China's WTO protocol of accession as a result of the US-China bilateral agreement?

The empirical results of the model are best appreciated knowing how Hong Kong'sT&C industries have been tracking in recent years.

- Hong Kong's *textile industry* in has been underperforming – by 1998 domestic exports were almost 40% below their peak in 1991 and their share in world markets had fallen nearly 50% since their highest levels in the early 80's. And throughout the 90's Hong Kong was the only major Asian exporter to exhibit negative growth rates. With a tight labor market and property prices reaching their highest levels around the mid 90's, alternative sites for capital and land-intensive textile production were sought outside of Hong Kong. Such moves were further induced by the simple fact that clothing production had been migrating out of Hong Kong as well.
- As far as Hong Kong's *clothing industry* is concerned, while it has held third place among all the clothing exporting countries throughout this decade, its growth rates were less than half of the average over the last 15 years and but one tenth the average over the decade of the 90's. As compared with its Asian competitors its performance reflects a similar trend as in those countries (e.g. Japan, Korea and Taiwan) growing out of the labor-intensive industries. Putting the Asian CI in a more

global perspective it can be seen that the total share in 1998 as opposed to 1990 was two percentage points lower. While this could well reflect the impact of the Asian crisis, it probably even more so reflects the shifts away from Asia and into locations on the rim of the EU or south of the USA, but here again not only because of quota-free access, but also due to being next door to demand. In the case of Mexico no country has grown so fast in the last 15 years – overall it grew almost 200% faster than average and over 70% faster than China.

The results of the model calculations are summarized as follows (see Tables 9 and 10):

- Aside from the sizeable increases in textile exports registered by China (PRC) and Chinese Taipei, Japan and Bangladesh (and other South Asia) exhibit similar results. Virtually all other economies experience losses, with the largest decrease shown by Mexico. In the latter case, the loss of preferential treatment because of the elimination of quotas severely affects Mexico and to a lesser degree Turkey.
- In the case of clothing exports, the massive shift to Chinese sources (+167.84%) is overshadowed by an even larger increase in India's exports (+217.51%). India's increase – which comes onto to a level of exports roughly one seven the size of China's (PRC) – can be explained to some extent by the highly restrictive quotas which prevailed on top of a large domestic industry which could begin to tap into the global potential. However, while India has almost always been viewed as having an export potential in numerous areas, its internal policies have usually kept it from being successful. Among all other economies, only Vietnam shows that it too can profit from the ATC liberalization.

To put the above changes into proper perspective: alone the increase in clothing exports estimated for China (PRC) would amount to over 25% of total world trade in clothing products in the base year. Given such massive changes the question must be asked whether China (PRC) will be able to accommodate them. In this connection one must recall that numerous other industries in China (PRC) suffered relatively large decreases in output in the course of applying the WTO accession conditions. These highly inefficient industries will help provide the workforce for the newly operating textile and clothing companies. Nonetheless, it does seem to be worthwhile keeping in mind that a rush to the Middle Kingdom, for sure not a rush to the bottom, is something which is expected to take place over a period of up to 7 years. And in 7 year's time the necessary adjustments would seem to be doable.

IV. SUMMARY AND CONCLUSIONS

The paper includes a detailed sectoral impact assessment of the same scenarios for Hong Kong, China (PRC) and Chinese Taipei. We explicitly focus on 7 sectors, accounting for roughly 80% of Hong Kong's exports. While Hong Kong does profit from the accessions, the size is generally less than many might assume. The only sector out of the 7 which lost was the clothing industry. Gaining most were transport services/other commercial services. Financial services did show a slight gain, but here it has effectively lost some quasi-preferential treatment in the course of the accession process.

Perhaps the key message from these calculations comes from the tables covering China's (PRC) accession. Its T&C sectors virtually explode. In essence these two sectors drive developments across the PRC's economy. But China also pays dearly in terms of structural adjustment, with massive restructuring hitting motor vehicles, primary nonferrous metals and primary steel sectors. Mainland China (PRC) therefore has a major restructuring job ahead of it. This can only be accomplished if other economies do not attempt to take advantage of specific contingent protection rules included in its protocol of accession. These permit other WTO members to keep protectionist pressure up against China (PRC) for 15 years. They cover special anti-surge clauses for T&C products (4 years), general anti-surge clauses (12 years) and treatment of China as “a non-market economy” in antidumping cases (15 years). Icing the cake is the fear that anti-dumping measures against China (PRC) will also be on the increase.

Concerning Chinese Taipei and its interactions with the PRC, there is a degree of uncertainty. Our results may be underestimates if MFN relations between the two new WTO members are allowed to flourish. Up until now, however, less than normal economic ties between the two economies have prevailed; Hong Kong in particular has profited from this constellation. The crucial question is: To what extent will both new WTO members prefer to maintain prevailing bi-lateral restrictions? The longer they do, the longer

Hong Kong will profit from its hub function for trade, transportation and investment/financial transactions between the two. But if true MFN relations quickly flourish between China(PRC) and Chinese Taipei, the synergies which could be harnessed would no doubt accelerate growth in production and trade far beyond the results of this modeling exercise.

The bottom line for Hong Kong is that Greater China's accession to the WTO brings with it tremendous potential. But it is a potential now more easily tapped by other WTO members as well. The WTO accession process will thus tend to shave off Hong Kong's China "inside" advantage. over time. While new opportunities will emerge, so will new competitive threats.

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[14] Contains some relevant sources not explicitly noted in text.

TABLES

Table 1: Greater China's WTO Accession – **% Change in Gross Domestic Product** (constant US$)

Economies	Elimination of ATC[a] quotas				Greater China accession			Total (4)+(7)
	WTO members only	China (PRC)	Chinese Taipei	Total	Tariff cuts and services liberalization[b]		Total	
					PRC	Taipei		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Hong Kong	**-0.14**	**0.08**	**-0.06**	**-0.12**	**0.25**	**0.02**	**0.27**	**0.15**
China (PRC)	**-0.16**	**1.20**	**0.09**	**1.12**	**4.63**	**0.06**	**4.69**	**5.80**
Chinese Taipei	**-0.13**	**0.28**	**0.03**	**0.18**	**0.43**	**-0.95**	**-0.52**	**-0.34**
Japan	-0.01	0.01	0.00	0.00	0.08	0.01	0.09	0.09
Korea	-0.01	0.01	0.00	0.00	0.18	0.02	0.20	0.20
ASEAN5[c]	0.11	-0.17	-0.02	-0.08	0.03	0.08	0.10	0.02
Vietnam	0.31	-0.19	-0.02	0.10	0.02	0.12	0.14	0.24
India	2.09	-0.55	-0.13	1.42	-0.46	0.01	-0.45	0.97
Bangladesh	-0.26	-0.24	-0.04	-0.54	0.38	0.01	0.40	-0.14
Other South Asia[d]	0.22	-0.28	-0.04	-0.10	-0.17	0.01	-0.16	-0.26
Australia	0.02	-0.01	0.00	0.02	0.13	0.03	0.16	0.18
New Zealand	0.02	0.01	0.00	0.03	0.16	0.08	0.24	0.27
Canada	0.05	0.07	0.00	0.12	0.09	0.01	0.10	0.22
United States	0.05	0.03	0.00	0.08	0.04	0.01	0.05	0.13
Mexico	-1.07	-0.99	0.01	-2.05	-0.77	0.02	-0.74	-2.80
Brazil	0.02	-0.01	0.00	0.01	0.07	0.01	0.08	0.09
MERCOSUR, other	0.01	-0.01	0.00	0.01	0.04	0.01	0.05	0.05
European Union (15)	0.00	0.02	0.00	0.02	0.04	0.01	0.05	0.07
Turkey	-0.03	-0.04	0.00	-0.07	-0.02	0.01	-0.01	-0.08
Africa, Mid-East	0.02	-0.03	0.00	-0.02	0.05	0.01	0.06	0.04
Rest of World[e]	0.00	-0.01	0.00	-0.01	0.09	0.01	0.09	0.09

[a] ATC = Agreement on Textiles and Clothing. – [b] For services a 50% reduction in estimated protection was assumed. – [c] ASEAN5 = Indonesia, Malaysia, Philippines, Singapore and Thailand. – [d] Pakistan, Sri Lanka, Nepal. – [e] Rest of world does not include some parts of Latin America not elsewise list. It reflects premarily results for Central and Eastern European countries.

Source: Own estimates based on GTAP5 model; see the text and appendix for explanation.

Table 2: Greater China's WTO Accession – **% Change in Exports** (US$)

Economies	Elimination of ATC[a] quotas				Greater China accession			Total (4)+(7)
	WTO members only	China (PRC)	Chinese Taipei	Total	Tariff cuts and services liberalization[b]		Total	
					PRC	Taipei		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Hong Kong	**2.11**	**-1.80**	**-0.04**	**0.27**	**1.97**	**0.13**	**2.10**	**2.37**
China (PRC)	**-0.40**	**6.31**	**-0.04**	**5.87**	**16.87**	**0.34**	**17.21**	**23.08**
Chinese Taipei	**-0.24**	**0.56**	**0.05**	**0.38**	**1.09**	**5.91**	**7.00**	**7.38**
Japan	-0.07	0.06	0.00	-0.01	1.71	0.21	1.92	1.92
Korea	0.04	0.28	0.00	0.32	1.02	0.05	1.07	1.39
ASEAN5 [c]	0.30	-0.27	0.00	0.03	0.15	0.12	0.27	0.29
Vietnam	2.62	-0.71	-0.02	1.89	-1.01	0.63	-0.38	1.51
India	18.10	-4.38	-0.81	12.91	-3.99	0.02	-3.97	8.94
Bangladesh	10.00	-6.53	-0.68	2.80	-2.90	0.03	-2.87	-0.07
Other South Asia[d]	5.69	-3.00	-0.18	2.51	-2.90	0.00	-2.89	-0.38
Australia	0.13	0.09	0.00	0.22	0.71	0.21	0.92	1.14
New Zealand	0.06	0.10	0.00	0.16	0.67	0.34	1.01	1.17
Canada	0.09	0.21	0.00	0.30	0.20	0.01	0.21	0.51
United States	0.48	0.65	0.01	1.14	0.74	0.13	0.88	2.01
Mexico	-1.00	-0.80	0.01	-1.80	-0.56	-0.01	-0.57	-2.36
Brazil	0.11	0.06	0.00	0.17	0.99	0.08	1.07	1.24
MERCOSUR, other	0.07	0.05	0.00	0.12	0.56	0.15	0.72	0.83
European Union (15)	-0.02	0.09	0.00	0.06	0.13	0.05	0.18	0.24
Turkey	-0.17	-0.67	0.00	-0.84	-1.17	0.03	-1.14	-1.98
Africa, Mid-East	-0.05	-0.14	0.00	-0.19	0.11	0.03	0.15	-0.04
Rest of World[e]	-0.09	-0.04	0.00	-0.13	0.28	0.03	0.31	0.18

[a] ATC = Agreement on Textiles and Clothing. – [b] For services a 50% reduction in estimated protection was assumed. – [c] ASEAN5 = Indonesia, Malaysia, Philippines, Singapore and Thailand. – [d] Pakistan, Sri Lanka, Nepal. – [e] Rest of world does not include some parts of Latin America not elsewise list. It reflects premarily results for Central and Eastern European countries.

Source: Own estimates based on GTAP5 model; see the text and appendix for explanation.

Table 3: Impact of Greater China's WTO Accession on Hong Kong – % Change in Value of Output

Sectors	Elimination of ATC[a] quotas				Greater China accession			Total (4)+(7)
	WTO members only	China (PRC)	Chinese Taipei	Total	Tariff cuts and services liberalization[b]		Total	
					PRC	Taipei		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Wool	1.09	3.70	0.04	4.83	-3.21	0.24	-2.97	1.86
Other natural fibers	4.19	-2.09	-0.09	2.01	-3.09	0.06	-3.03	-1.02
Primary food	-0.05	0.13	-0.00	0.07	0.45	-0.07	0.38	0.45
Other primary prod.	-0.82	0.67	-0.00	-0.15	1.12	0.01	1.12	0.98
Sugar	-0.77	0.65	-0.00	-0.13	5.06	0.07	5.13	5.00
Processed foods	-1.94	1.65	-0.03	-0.32	4.26	0.09	4.35	4.03
Textiles	**2.01**	**0.67**	**0.01**	**2.69**	**-11.92**	**-0.12**	**-12.04**	**-9.35**
Clothing	**23.33**	**-12.18**	**-2.90**	**8.25**	**-15.37**	**0.42**	**-14.95**	**-6.71**
Leather goods	-3.41	2.06	-0.06	-1.42	2.71	-0.35	2.36	0.94
Chem./rubber/refine.	-1.32	1.53	-0.02	0.19	3.48	-0.14	3.33	3.52
Primary steel	-3.04	3.29	-0.08	0.17	6.24	0.15	6.39	6.56
Primary NF-metals	-1.38	1.65	-0.02	0.25	5.59	-0.29	5.30	5.56
M. vehicles, parts	-4.65	3.09	-0.13	-1.68	4.34	-1.75	2.60	0.91
Electronics	**-2.15**	**1.24**	**-0.02**	**-0.93**	**3.28**	**0.07**	**3.35**	**2.42**
Other mach./equip.	-3.81	3.35	-0.12	-0.58	7.28	-0.24	7.05	6.46
Other manufactures	-1.58	1.31	-0.02	-0.29	1.76	0.04	1.80	1.51
W-sale/ret. trade	**-0.77**	**0.30**	**-0.00**	**-0.47**	**0.41**	**0.04**	**0.44**	**-0.03**
Transport services	**-0.75**	**0.40**	**-0.00**	**-0.35**	**0.54**	**0.04**	**0.58**	**0.23**
Communications	-0.78	0.26	-0.00	-0.51	0.59	0.04	0.63	0.12
Construction	-0.44	0.16	-0.00	-0.28	0.45	0.04	0.49	0.21
Fin./ins./r. estate	**-0.66**	**0.30**	**-0.00**	**-0.36**	**0.16**	**0.02**	**0.18**	**-0.18**
Comm. services	**-1.04**	**0.47**	**-0.00**	**-0.57**	**1.10**	**0.04**	**1.13**	**0.56**
Other services	-0.51	0.07	-0.00	-0.44	0.30	0.04	0.35	-0.09

[a] ATC = Agreement on Textiles and Clothing.

Source: Own estimates based on GTAP5 model; see the text and appendix for explanation.

Table 4: Impact of Greater China's WTO Accession on Hong Kong – **% Change in Value of Exports**

Sectors	Elimination of ATC[a] quotas				Greater China accession			Total (4)+(7)
	WTO members only	China (PRC)	Chinese Taipei	Total	Tariff cuts and services liberalization[b]		Total	
					PRC	Taipei		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Wool	-1.84	0.39	0.00	-1.45	-0.49	0.19	-0.30	-1.75
Other natural fibers	-4.04	-1.49	0.06	-5.47	-5.39	-0.00	-5.39	-10.85
Primary food	0.01	-0.31	0.00	-0.30	1.31	0.13	1.45	1.15
Other primary prod.	0.67	-0.83	-0.01	-0.16	-1.19	0.15	-1.04	-1.21
Sugar	-0.81	1.02	-0.01	0.20	16.58	0.34	16.92	17.11
Processed foods	-1.86	1.68	-0.03	-0.21	10.28	1.21	11.49	11.28
Textiles	**-3.20**	**4.38**	**-0.12**	**1.06**	**1.87**	**-0.19**	**1.68**	**2.73**
Clothing	**30.18**	**-19.54**	**-5.98**	**4.66**	**-7.66**	**0.68**	**-6.98**	**-2.32**
Leather goods	-5.30	7.05	-0.36	1.39	2.05	0.33	2.38	3.77
Chem./rubber/refine.	-1.33	3.13	-0.04	1.76	11.68	-0.29	11.39	13.16
Primary steel	-2.36	3.59	-0.08	1.15	11.54	5.48	17.02	18.17
Primary NF-metals	-1.06	1.96	-0.02	0.88	6.60	-0.38	6.22	7.11
M. vehicles, parts	-6.53	4.04	-0.25	-2.75	24.23	0.90	25.13	22.38
Electronics	**-1.83**	**1.13**	**-0.02**	**-0.72**	**3.05**	**0.08**	**3.13**	**2.41**
Other mach./equip.	-3.38	4.13	-0.13	0.62	9.20	-0.15	9.05	9.67
Other manufactures	-1.94	3.03	-0.05	1.04	2.90	0.22	3.12	4.16
W-sale/ret. trade	**-1.89**	**0.69**	**-0.01**	**-1.21**	**1.75**	**0.03**	**1.78**	**0.57**
Transport services	**-1.18**	**1.83**	**-0.02**	**0.64**	**3.83**	**0.14**	**3.97**	**4.61**
Communications	-1.99	1.06	-0.02	-0.95	2.50	0.01	2.51	1.57
Construction	-1.34	0.60	-0.00	-0.74	2.11	0.16	2.26	1.53
Fin./ins./r. estate	**-2.43**	**1.29**	**-0.02**	**-1.17**	**2.83**	**0.00**	**2.83**	**1.66**
Comm. services	**-2.50**	**1.23**	**-0.02**	**-1.29**	**4.44**	**0.07**	**4.50**	**3.21**
Other services	-2.21	1.17	-0.02	-1.06	4.04	0.13	4.18	3.12

[a] ATC = Agreement on Textiles and Clothing.

Source: Own estimates based on GTAP5 model; see the text and appendix for explanation.

Table 5: Impact of Greater China's WTO Accession on China (PRC) – **% Change in Output**

Sectors	Elimination of ATC[a] quotas				Greater China accession			Total (4)+(7)
	WTO members only	China (PRC)	Chinese Taipei	Total	Tariff cuts and services liberalization[b]		Total	
					PRC	Taipei		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Wool	0.29	12.49	0.02	12.80	18.37	-0.10	18.26	31.06
Other natural fibers	0.29	11.81	0.02	12.11	17.94	-0.09	17.86	29.97
Primary food	-0.04	-0.39	-0.00	-0.43	-1.07	0.04	-1.03	-1.46
Other primary prod.	0.22	-2.82	-0.00	-2.60	-3.56	-0.01	-3.57	-6.17
Sugar	0.19	-2.45	-0.00	-2.26	-7.97	0.04	-7.93	-10.19
Processed foods	0.04	-1.06	0.00	-1.02	-4.72	0.06	-4.66	-5.68
Textiles	**0.23**	**13.68**	**0.02**	**13.93**	**32.13**	**-0.13**	**32.00**	**45.93**
Clothing	**-2.18**	**53.71**	**-1.27**	**50.26**	**74.80**	**0.66**	**75.46**	**125.72**
Leather goods	0.18	-7.35	-0.00	-7.18	5.69	-0.34	5.36	-1.82
Chem./rubber/refine.	0.07	-2.10	0.00	-2.03	-4.41	-0.12	-4.53	-6.55
Primary steel	-0.01	-3.99	0.01	-3.99	-9.06	-0.07	-9.13	-13.13
Primary NF-metals	0.04	-5.46	0.01	-5.42	-9.03	-0.21	-9.24	-14.66
M. vehicles, parts	-0.06	-4.07	0.01	-4.11	-36.89	0.21	-36.68	-40.79
Electronics	**-0.06**	**-5.01**	**0.01**	**-5.06**	**-3.99**	**0.08**	**-3.91**	**-8.97**
Other mach./equip.	-0.08	-3.72	0.01	-3.80	-5.32	-0.07	-5.39	-9.19
Other manufactures	-0.08	-2.08	0.00	-2.16	-0.38	0.03	-0.34	-2.50
W-sale/ret. trade	**-0.04**	**-0.21**	**-0.00**	**-0.25**	**1.34**	**0.05**	**1.39**	**1.14**
Transport services	**-0.01**	**-1.93**	**0.00**	**-1.94**	**-2.02**	**0.07**	**-1.95**	**-3.89**
Communications	-0.12	-0.39	-0.00	-0.51	0.00	0.05	0.06	-0.45
Construction	-0.21	0.97	-0.01	0.75	2.70	0.11	2.81	3.56
Fin./ins./r. estate	**-0.09**	**-0.56**	**0.00**	**-0.65**	**-0.45**	**0.05**	**-0.40**	**-1.06**
Comm. services	**-0.09**	**-0.69**	**0.00**	**-0.78**	**-5.95**	**0.10**	**-5.85**	**-6.63**
Other services	-0.14	0.15	-0.00	0.00	0.39	0.07	0.46	0.46

[a] ATC = Agreement on Textiles and Clothing.

Source: Own estimates based on GTAP5 model; see the text and appendix for explanation.

Table 6: Impact of Greater China's WTO Accession on China (PRC) – **% Change in Value of Exports**

Sectors	Elimination of ATC[a] quotas				Greater China accession			Total (4)+(7)
	WTO members only	China (PRC)	Chinese Taipei	Total	Tariff cuts and services liberalization[b]		Total	
					PRC	Taipei		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Wool	2.04	-11.36	-0.21	-9.52	-18.83	0.10	-18.73	-28.25
Other natural fibers	2.38	-6.90	-0.15	-4.67	-16.18	0.05	-16.12	-20.79
Primary food	0.70	-4.84	-0.02	-4.16	-5.03	-0.02	-5.05	-9.21
Other primary prod.	0.93	-4.23	-0.03	-3.33	-3.16	0.17	-2.98	-6.31
Sugar	2.58	-5.73	-0.14	-3.29	-5.22	0.03	-5.19	-8.48
Processed foods	0.60	-5.56	-0.02	-4.99	-4.91	0.77	-4.15	-9.13
Textiles	**2.23**	**3.86**	**0.09**	**6.18**	**32.51**	**0.23**	**32.74**	**38.91**
Clothing	**-6.41**	**100.89**	**-6.66**	**87.81**	**79.35**	**0.67**	**80.03**	**167.84**
Leather goods	0.15	-7.81	-0.00	-7.66	3.72	0.14	3.85	-3.81
Chem./rubber/refine.	0.46	-3.74	-0.01	-3.29	-0.54	0.23	-0.30	-3.60
Primary steel	0.32	-5.87	-0.01	-5.56	-3.94	0.94	-3.00	-8.56
Primary NF-metals	0.09	-5.96	0.00	-5.87	-4.23	0.18	-4.05	-9.93
M. vehicles, parts	0.58	-12.85	-0.05	-12.33	12.04	4.13	16.17	3.85
Electronics	**-0.12**	**-4.45**	**0.01**	**-4.56**	**-0.99**	**0.13**	**-0.86**	**-5.42**
Other mach./equip.	-0.08	-6.63	0.01	-6.69	-3.95	0.26	-3.69	-10.38
Other manufactures	-0.02	-5.73	0.01	-5.74	-2.85	0.28	-2.57	-8.31
W-sale/ret. trade	**0.70**	**-5.46**	**-0.03**	**-4.79**	**-5.29**	**0.10**	**-5.19**	**-9.98**
Transport services	**0.12**	**-3.43**	**0.00**	**-3.31**	**-2.46**	**0.17**	**-2.28**	**-5.59**
Communications	-0.19	-4.87	0.01	-5.05	-4.50	0.12	-4.38	-9.42
Construction	0.06	-4.99	0.01	-4.92	-4.64	0.29	-4.34	-9.26
Fin./ins./r. estate	**0.14**	**-5.47**	**0.00**	**-5.33**	**-6.24**	**0.23**	**-6.01**	**-11.33**
Comm. services	**0.13**	**-5.31**	**0.00**	**-5.17**	**-3.68**	**0.68**	**-3.00**	**-8.17**
Other services	0.43	-6.01	-0.02	-5.59	-6.40	0.42	-5.98	-11.58

[a] ATC = Agreement on Textiles and Clothing.

Source: Own estimates based on GTAP5 model; see the text and appendix for explanation.

Table 7: Impact of Greater China's WTO Accession on Chinese Taipei – **% Change in Output**

Sectors	Elimination of ATC[a] quotas				Greater China accession			Total (4)+(7)
	WTO members only	China (PRC)	Chinese Taipei	Total	Tariff cuts and services liberalization[b]		Total	
					PRC	Taipei		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Wool	1.33	2.25	-0.01	3.57	4.30	14.68	18.98	22.55
Other natural fibers	0.37	0.25	0.29	0.90	-1.99	11.38	9.39	10.29
Primary food	0.03	-0.05	-0.01	-0.03	0.06	-2.89	-2.83	-2.86
Other primary prod.	0.32	0.04	-0.05	0.31	0.41	-1.91	-1.50	-1.19
Sugar	0.11	-0.09	-0.02	0.00	0.10	-6.38	-6.28	-6.28
Processed foods	0.04	-0.03	-0.01	0.00	0.19	-8.75	-8.56	-8.56
Textiles	**-0.15**	**5.37**	**0.34**	**5.57**	**-1.38**	**2.70**	**1.33**	**6.89**
Clothing	**-8.15**	**-8.50**	**4.25**	**-12.40**	**-16.17**	**-7.23**	**-23.40**	**-35.80**
Leather goods	0.43	2.22	-0.11	2.54	-4.05	16.45	12.40	14.94
Chem./rubber/refine.	0.04	0.89	0.01	0.94	1.89	1.38	3.27	4.21
Primary steel	0.05	0.41	-0.08	0.39	2.09	-3.04	-0.96	-0.57
Primary NF-metals	0.22	0.19	-0.11	0.30	1.94	2.35	4.29	4.59
M. vehicles, parts	-0.04	-0.49	-0.08	-0.61	0.33	-26.75	-26.42	-27.03
Electronics	**-0.05**	**-0.41**	**-0.06**	**-0.53**	**-0.26**	**4.08**	**3.82**	**3.29**
Other mach./equip.	0.01	0.11	-0.09	0.02	1.19	2.32	3.51	3.53
Other manufactures	0.02	0.09	-0.05	0.06	-0.11	0.33	0.22	0.28
W-sale/ret. trade	**-0.12**	**0.24**	**0.02**	**0.14**	**0.43**	**-1.57**	**-1.14**	**-1.00**
Transport services	**0.06**	**0.19**	**-0.02**	**0.23**	**0.56**	**0.13**	**0.69**	**0.92**
Communications	-0.12	0.23	0.02	0.13	0.39	-1.71	-1.32	-1.18
Construction	-0.27	0.61	0.05	0.38	0.91	-3.38	-2.47	-2.09
Fin./ins./r. estate	**-0.09**	**0.26**	**0.01**	**0.18**	**0.33**	**-1.36**	**-1.03**	**-0.85**
Comm. services	**-0.19**	**0.33**	**0.02**	**0.17**	**0.64**	**-3.12**	**-2.49**	**-2.32**
Other services	-0.08	0.21	0.01	0.14	0.34	-1.91	-1.57	-1.43

[a] ATC = Agreement on Textiles and Clothing.

Source: Own estimates based on GTAP5 model; see the text and appendix for explanation.

Table 8: Impact of Greater China's WTO Accession on Chinese Taipei – **% Change in Value of Exports**

Sectors	Elimination of ATC[a] quotas				Greater China accession			Total (4)+(7)
	WTO members only	China (PRC)	Chinese Taipei	Total	Tariff cuts and services liberalization[b]		Total	
					PRC	Taipei		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Wool	1.72	3.30	0.01	5.03	6.71	12.06	18.77	23.80
Other natural fibers	3.64	2.18	-0.31	5.52	5.53	12.69	18.22	23.74
Primary food	0.33	0.02	-0.04	0.31	2.06	19.03	21.09	21.40
Other primary prod.	0.88	0.55	-0.08	1.35	-0.12	10.67	10.55	11.91
Sugar	-0.30	-1.23	-0.08	-1.61	0.53	9.81	10.34	8.73
Processed foods	0.37	-0.16	-0.06	0.14	2.99	15.86	18.84	18.99
Textiles	**0.74**	**7.95**	**0.00**	**8.69**	**1.52**	**3.86**	**5.38**	**14.07**
Clothing	**-20.41**	**-24.63**	**12.73**	**-32.31**	**-30.51**	**9.76**	**-20.75**	**-53.07**
Leather goods	0.41	2.50	-0.12	2.79	-4.12	17.94	13.82	16.62
Chem./rubber/refine.	0.22	1.17	-0.04	1.35	6.08	3.85	9.93	11.27
Primary steel	-0.01	1.67	-0.07	1.59	8.22	7.56	15.78	17.36
Primary NF-metals	0.12	1.17	-0.07	1.22	4.77	4.15	8.92	10.13
M. vehicles, parts	0.05	-1.32	-0.15	-1.42	3.40	54.74	58.15	56.73
Electronics	**-0.12**	**-0.34**	**-0.05**	**-0.51**	**-0.21**	**4.06**	**3.85**	**3.34**
Other mach./equip.	0.02	0.46	-0.10	0.39	2.29	7.88	10.16	10.55
Other manufactures	0.03	0.16	-0.09	0.10	-0.54	5.74	5.20	5.30
W-sale/ret. trade	**0.39**	**-0.74**	**-0.08**	**-0.43**	**-0.92**	**2.95**	**2.04**	**1.61**
Transport services	**0.26**	**0.53**	**-0.05**	**0.74**	**1.57**	**2.63**	**4.19**	**4.93**
Communications	0.16	-0.44	-0.05	-0.33	-0.12	1.34	1.22	0.89
Construction	0.34	-0.71	-0.08	-0.45	-0.07	4.51	4.45	4.00
Fin./ins./r. estate	**0.19**	**-0.65**	**-0.07**	**-0.53**	**-0.37**	**2.10**	**1.72**	**1.19**
Comm. services	**-0.23**	**-0.17**	**-0.03**	**-0.42**	**1.84**	**0.13**	**1.97**	**1.54**
Other services	0.43	-1.01	-0.11	-0.69	0.20	4.57	4.77	4.08

[a] ATC = Agreement on Textiles and Clothing.

Source: Own estimates based on GTAP5 model; see the text and appendix for explanation.

Table 9: Impact of Greater China's WTO Accession on **Textile Exports** – % Change

Economies	Elimination of ATC[a] quotas				Greater China accession			Total (4)+(7)
	WTO members only	China (PRC)	Chinese Taipei	Total	Tariff cuts and services liberalization[b]		Total	
					PRC	Taipei		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Hong Kong	**-3.20**	**4.38**	**-0.12**	**1.06**	**1.87**	**-0.19**	**1.68**	**2.73**
China (PRC)	**2.23**	**3.86**	**0.09**	**6.18**	**32.51**	**0.23**	**32.74**	**38.91**
Chinese Taipei	**0.74**	**7.95**	**0.00**	**8.69**	**1.52**	**3.86**	**5.38**	**14.07**
Japan	0.94	7.16	0.12	8.22	3.16	-0.08	3.08	11.30
Korea	2.10	3.08	0.07	5.25	-1.47	-0.17	-1.64	3.61
ASEAN5 [c]	7.95	-1.42	-0.08	6.46	-7.58	0.15	-7.42	-0.97
Vietnam	3.94	0.06	0.07	4.08	-9.83	0.64	-9.19	-5.11
India	1.93	1.28	0.05	3.26	-4.26	-0.04	-4.30	-1.04
Bangladesh	17.19	-0.18	-0.02	16.99	-1.45	-0.02	-1.48	15.51
Other South Asia	12.35	0.87	0.13	13.35	-3.18	-0.02	-3.20	10.15
Australia	1.50	1.25	0.04	2.80	-4.48	-0.18	-4.66	-1.87
New Zealand	3.33	0.84	0.06	4.22	-6.68	-0.37	-7.05	-2.83
Canada	-5.08	-4.95	0.23	-9.80	-6.67	-0.11	-6.78	-16.58
United States	-2.86	-3.00	0.09	-5.77	-7.71	-0.04	-7.75	-13.52
Mexico	-6.26	-6.71	0.40	-12.57	-8.04	-0.09	-8.13	-20.70
Brazil	6.02	-2.38	-0.15	3.49	-5.24	-0.03	-5.27	-1.78
MERCOSUR, other	-0.67	1.59	-0.01	0.91	-2.15	-0.21	-2.36	-1.46
European Union (15)	-1.85	-1.97	0.04	-3.79	-6.67	-0.07	-6.73	-10.52
Turkey	1.94	-2.76	-0.05	-0.88	-6.43	-0.06	-6.49	-7.36
Africa, Mid-East	-3.30	-3.21	0.10	-6.40	-6.69	-0.07	-6.77	-13.17
Rest of World[e]	-2.66	-2.45	0.07	-5.05	-6.56	-0.08	-6.64	-11.69

[a] ATC = Agreement on Textiles and Clothing. – [b] For services a 50% reduction in estimated protection was assumed. – [c] ASEAN5 = Indonesia, Malaysia, Philippines, Singapore and Thailand. – [d] Pakistan, Sri Lanka, Nepal. – [e] Rest of world does not include some parts of Latin America not elsewise list. It reflects premarily results for Central and Eastern European countries.

Source: Own estimates based on GTAP5 model; see the text and appendix for explanation.

Table 10: Impact of Greater China's WTO Accession on **Clothing Exports** – % Change

Economies	Elimination of ATC[a] quotas				Greater China accession			Total (4)+(7)
	WTO members only	China (PRC)	Chinese Taipei	Total	Tariff cuts and services liberalization[b]		Total	
					PRC	Taipei		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Hong Kong	**30.18**	**-19.54**	**-5.98**	**4.66**	**-7.66**	**0.68**	**-6.98**	**-2.32**
China (PRC)	**-6.41**	**100.89**	**-6.66**	**87.81**	**79.35**	**0.67**	**80.03**	**167.84**
Chinese Taipei	**-20.41**	**-24.63**	**12.73**	**-32.31**	**-30.51**	**9.76**	**-20.75**	**-53.07**
Japan	-4.47	1.51	-0.07	-3.03	-16.28	1.65	-14.63	-17.65
Korea	-8.52	-16.09	1.33	-23.29	-21.45	1.33	-20.12	-43.41
ASEAN5 [c]	28.79	-20.97	-6.14	1.68	-23.98	0.23	-23.76	-22.08
Vietnam	26.92	-7.55	-2.05	17.32	-8.59	3.39	-5.21	12.11
India	337.90	-21.69	-73.67	242.55	-24.86	-0.18	-25.04	217.51
Bangladesh	20.87	-15.97	-3.40	1.51	-9.47	0.04	-9.42	-7.91
Other South Asia	21.93	-18.67	-4.18	-0.92	-17.22	-0.08	-17.31	-18.22
Australia	-5.78	-5.60	0.30	-11.08	-16.29	-0.00	-16.29	-27.37
New Zealand	-1.13	0.06	-0.00	-1.08	-24.43	-0.39	-24.81	-25.89
Canada	-19.86	-24.38	4.75	-39.49	-28.56	-0.09	-28.64	-68.14
United States	2.15	3.90	0.11	6.16	-7.60	0.13	-7.47	-1.31
Mexico	-26.23	-33.73	8.74	-51.21	-36.26	-0.15	-36.40	-87.62
Brazil	12.45	-13.36	-1.71	-2.62	-19.67	0.37	-19.30	-21.92
MERCOSUR, other	-5.63	-5.92	0.32	-11.23	-15.12	-0.15	-15.27	-26.50
European Union (15)	-4.09	-5.14	0.20	-9.03	-18.19	0.10	-18.08	-27.11
Turkey	-4.57	-9.27	0.40	-13.43	-18.43	-0.06	-18.49	-31.92
Africa, Mid-East	-11.79	-12.55	1.46	-22.88	-18.53	-0.10	-18.62	-41.50
Rest of World[e]	-6.57	-11.34	0.73	-17.18	-18.98	-0.08	-19.06	-36.24

[a] ATC = Agreement on Textiles and Clothing. – [b] For services a 50% reduction in estimated protection was assumed. – [c] ASEAN5 = Indonesia, Malaysia, Philippines, Singapore and Thailand. – [d] Pakistan, Sri Lanka, Nepal. – [e] Rest of world does not include some parts of Latin America not elsewise list. It reflects premarily results for Central and Eastern European countries.

Source: Own estimates based on GTAP5 model; see the text and appendix for explanation.

Table 11: **Greater China** 1997 Export Data for Merchandise and Services from the GTAP Data Base – Shares (%) of Product/Services Exports in Individual Economy/Region Exports

	Hong Kong	China (PRC)	Chinese Taipei	Japan	Korea	Southeast Asia	South Asia	Australia + N.Zealand	USA + Canada	Mexico	Brazil	Other Latin america	EU15 + Turkey	Africa, Mideast, ROW	Total (mill. US$)
Agric.[a]	4.25	0.10	3.82	3.24	5.70	2.39	1.93	0.59	0.44	0.47	1.13	0.99	1.13	1.90	1.61
Oth. primary	2.11	0.09	3.64	3.51	7.49	0.89	0.40	0.49	0.45	0.10	0.11	0.17	0.26	0.44	1.14
Proc. food	7.92	0.47	2.06	6.67	4.24	3.33	0.19	1.42	0.88	0.47	0.26	0.49	0.84	2.44	2.34
Textiles	**26.06**	**19.01**	**5.33**	**8.28**	**12.90**	**9.42**	**23.82**	**10.56**	**4.05**	**4.98**	**5.99**	**11.62**	**4.86**	**7.83**	**8.42**
Clothing	**18.21**	**3.46**	**5.33**	**12.89**	**5.54**	**1.72**	**0.65**	**8.99**	**8.85**	**3.20**	**6.93**	**8.93**	**8.92**	**8.55**	**8.39**
Leather	0.16	2.09	4.64	4.74	2.70	1.60	0.50	5.64	9.35	2.82	4.11	9.33	5.46	5.40	5.50
Chem./rub/refin.	4.31	20.14	8.24	5.58	7.39	10.86	21.06	8.70	5.20	7.68	7.37	7.33	6.29	5.45	7.55
Primary steel	3.50	3.31	5.98	2.15	10.47	3.89	2.25	1.05	0.48	1.40	0.33	0.45	0.36	0.58	1.75
NF metals	2.19	4.29	2.01	1.52	2.76	2.34	1.15	0.55	0.27	0.31	0.16	0.06	0.29	0.16	1.12
Motor vehicl.	2.92	0.15	1.17	0.58	1.63	0.72	0.95	0.69	0.71	0.91	0.26	0.87	0.32	0.40	0.67
Electronics	**15.21**	**14.40**	**16.95**	**15.86**	**16.42**	**25.02**	**5.66**	**17.13**	**24.15**	**29.56**	**18.02**	**8.36**	**21.74**	**7.24**	**19.08**
Oth. mach./equip.	5.17	20.56	19.80	14.05	9.25	19.41	17.05	14.79	14.60	18.90	18.61	18.29	15.27	12.35	15.05
Manufac. NEC	5.49	10.07	14.80	12.96	8.64	9.49	10.74	16.30	19.02	12.21	13.60	17.65	14.69	8.52	13.74
W-sale/ret. trade	**0.10**	**0.46**	**0.54**	**0.68**	**1.34**	**6.68**	**6.26**	**7.20**	**5.35**	**2.66**	**6.64**	**5.90**	**7.97**	**29.48**	**6.78**
Transport serv.	**0.57**	**0.57**	**2.39**	**4.08**	**2.04**	**1.20**	**3.40**	**3.32**	**3.36**	**6.71**	**8.17**	**4.99**	**6.61**	**4.68**	**3.69**
Communications	0.04	0.04	0.18	0.18	0.14	0.04	0.20	0.24	0.24	0.52	0.40	0.28	0.33	0.26	0.21
Construction	0.05	0.06	0.23	0.38	0.07	0.08	0.24	0.13	0.16	0.39	0.47	0.28	0.57	0.36	0.27
Fin/ins/r.est.	**0.11**	**0.11**	**0.45**	**0.43**	**0.18**	**0.14**	**0.59**	**0.38**	**0.37**	**1.88**	**1.07**	**0.69**	**0.62**	**0.60**	**0.41**
Comm. serv.	**0.43**	**0.44**	**1.81**	**1.32**	**0.73**	**0.52**	**2.04**	**1.14**	**1.34**	**3.17**	**4.05**	**2.16**	**2.15**	**2.22**	**1.43**
Other serv.	1.20	0.18	0.64	0.89	0.40	0.24	0.92	0.68	0.73	1.65	2.35	1.14	1.33	1.13	0.85
Total	17285.48	33741.60	6113.45	55918.60	12877.93	38918.51	4883.49	7640.46	118382.25	2198.99	3600.41	7646.49	81713.99	38239.97	429161.62

[a] Wool, other natural fibers, primary food, sugar.

Source: Own calculations based on Table 42.

Table 12a: Exports of Hong Kong, China (PRC) and Chinese Taipei by Major Commodity Groups to OECD – Shares and Growth Rates

Total/SITC group	Shares in total trade			Average annual growth rates[a]		
	90/91	94/95	98/99	90/91-94/95	94/95-98/99	90/91-98/99
			Hong Kong			
Total trade (bill. US$)	*23.00*	*24.58*	*26.61*	1.68	2.00	1.84
6 Manufactured gds.	7.59	6.98	7.02	-0.42	2.12	0.84
65 Textile/ yarn etc.	2.62	1.73	1.46	-8.35	-2.31	-5.37
7 Machinery/trans. equip.	23.59	26.79	31.12	4.97	5.90	5.43
75 Office/data proc. mach.	8.63	8.36	8.79	0.87	3.28	2.07
76 Telecomm/electronics	5.33	3.78	4.09	-6.70	4.06	-1.47
8 Misc. man. gds.	63.49	60.18	55.18	0.33	-0.19	0.07
84 Clothing	40.02	37.98	32.45	0.36	-1.94	-0.79
85 Footwear	0.85	0.86	0.97	1.81	**5.25**	3.52
87 Profess/scientif. equip.	0.88	0.94	1.00	3.55	3.65	3.60
88 Photo/optical/watches etc.	7.23	6.67	6.33	-0.34	0.67	0.16
894 Toys/sporting gds. etc.	2.73	2.23	2.59	-3.30	5.86	1.18
			China (PRC)			
Total trade (bill. US$)	*51.57*	*116.62*	*181.97*	**22.63**	**11.76**	**17.07**
6 Manufactured gds.	12.43	11.75	11.20	**20.90**	**10.45**	**15.56**
65 Textile/ yarn etc.	5.91	4.04	2.89	**11.54**	**2.77**	**7.06**
7 Machinery/trans. equip.	12.51	19.95	28.28	**37.82**	**21.94**	**29.64**
75 Office/data proc. mach.	0.86	4.05	8.03	**80.83**	**32.61**	**54.85**
76 Telecomm/electronics	5.77	7.12	7.49	**29.25**	**13.16**	**20.94**
8 Misc. man. gds.	51.26	53.64	49.82	**24.03**	**9.72**	**16.65**
84 Clothing	22.03	20.24	15.62	**20.05**	4.76	**12.14**
85 Footwear	5.90	7.50	6.75	**30.21**	**8.88**	**19.07**
87 Profess/scientif. equip.	0.39	0.65	0.97	**38.98**	**23.55**	**31.04**
88 Photo/optical/watches etc.	1.28	1.88	2.27	**34.99**	**17.23**	**25.80**
894 Toys/sporting gds. etc.	9.79	9.86	10.71	**22.86**	**14.08**	**18.39**
			Chinese Taipei			
Total trade (bill. US$)	*51.06*	*61.67*	*73.53*	4.83	4.49	4.66
6 Manufactured gds.	14.91	14.25	13.22	3.65	2.54	3.10
65 Textile/ yarn etc.	3.09	2.67	2.71	1.11	**4.83**	2.95
7 Machinery/trans. equip.	40.70	52.11	62.54	**11.51**	**9.37**	**10.44**
75 Office/data proc. mach.	15.11	23.49	30.36	**17.06**	**11.41**	**14.20**
76 Telecomm/electronics	5.62	4.34	5.16	-1.69	9.07	3.55
8 Misc. man. gds.	34.42	23.20	17.33	-5.02	-2.85	-3.94
84 Clothing	8.02	5.28	4.17	-5.56	-1.52	-3.56
85 Footwear	4.67	1.37	0.63	-22.81	-13.86	-18.46
87 Profess/scientif. equip.	0.76	0.89	1.02	**9.00**	**8.01**	**8.50**
88 Photo/optical/watches etc.	1.73	1.58	1.22	2.47	-2.02	0.20
894 Toys/sporting gds. etc.	6.43	4.34	2.38	-4.97	-10.13	-7.59
			Greater China			
Total trade (bill. US$)	*125.63*	*202.88*	*282.11*	**12.73**	**8.59**	**10.64**
6 Manufactured gds.	12.56	11.93	11.33	**11.30**	**7.21**	**9.23**
65 Textile/ yarn etc.	4.16	3.35	2.71	**6.76**	**2.99**	**4.86**
7 Machinery/trans. equip.	25.99	30.56	37.47	**17.38**	**14.27**	**15.82**
75 Office/data proc. mach.	8.07	10.48	13.92	**20.33**	**16.57**	**18.44**
76 Telecomm/electronics	5.63	5.87	6.56	**13.94**	**11.63**	**12.78**
8 Misc. man. gds.	46.66	45.18	41.85	**11.83**	**6.54**	**9.15**
84 Clothing	19.63	17.84	14.22	**10.07**	2.61	**6.27**
85 Footwear	4.47	4.83	4.61	**14.90**	**7.34**	**11.06**
87 Profess/scientif. equip.	0.63	0.76	0.99	**18.01**	**15.95**	**16.98**
88 Photo/optical/watches etc.	2.55	2.37	2.38	**10.63**	**8.74**	**9.68**
894 Toys/sporting gds. etc.	7.13	7.26	7.77	**13.23**	**10.45**	**11.83**

[a] Above OECD total average import growth rates in **bold-faced type**.

Table 12b: Total Imports of OECD by Major Commodity Groups – Shares and Growth Rates

Total trade (bill. US$)	*2640.92*	*3413.97*	*4171.98*	6.63	5.14	5.88
6 Manufactured gds.	15.64	15.25	14.08	5.95	3.06	4.50
65 Textile/ yarn etc.	2.61	2.44	2.18	4.85	2.26	3.55
7 Machinery/trans. equip.	34.52	36.71	41.19	8.28	8.21	8.25
75 Office/data proc. mach.	4.51	5.44	6.36	11.77	9.31	10.53
76 Telecomm/electronics	2.89	3.15	3.85	8.96	10.59	9.77
8 Misc. man. gds.	13.99	13.96	14.10	6.56	5.41	5.99
84 Clothing	4.00	4.01	3.96	6.70	4.86	5.77
85 Footwear	1.07	1.01	0.93	5.22	3.06	4.13
87 Profess/scientif. equip.	1.63	1.73	1.87	8.31	7.18	7.75
88 Photo/optical/watches etc.	1.19	1.19	1.11	6.44	3.51	4.97
894 Toys/sporting gds. etc.	0.87	0.93	1.00	8.26	7.18	7.72

Source: Own calculations based on data in Tables 48a and 48b.