ผลกระทบของการเจรจารอบอุรุกวัย : ภาพรวม

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The Emerging Global Trading Environment:

Economics Implications for Thailand

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Draft 1.0

Introduction

The purpose of this paper is to assess if Thailand's objectives in the Uruguay Round negotiations were met. Thus there are three questions that need to be answered. First, what were the goals? Second, were they satisfied? Third and last, what are the lessons for the future? Answers for these were drawn from the ten papers written on the impact of the Uruguay Round on Thailand.[1] Thus this paper presents a synthesis, albeit a brief one, of the information and analysis contained in each of the papers. The outline of this paper is as follows: part one outlines the objectives Thailand sought; part two considers the trade disputes; parts three and four are quantitative studies; parts five and six consider sectoral effects; part seven discusses the environment; parts eight and nine focuss on lessons and negotiations.

1. The Objectives

The goals that Thailand set for the Uruguay Round are numerous and varied. However, they may be divided into three categories: law and order, political, and sectoral. The law and order objectives were, as the label suggests, to strengthen the rules of the international trading system. Thailand, along with many other countries, wanted strong trade disciplines so that its trade interests would no longer be prey to the whims of powerful trading nations and blocs that had used their national legislation in the past to enforce their interests over the weaker countries. In particular, Thailand wanted to have an effective trade dispute mechanism so that it would not fall victim to the US Section 301 legislation.

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[1] See the List of papers in Appendix 1.

The political objectives were mainly concerned with the issue of rice exports. Rice remains to this day Thailand's major agricultural crop of Thailand. In 1985, the US Congress passed the Farm Act which increased subsidies paid to rice farmers and allowed the US to lower its export prices. This Act gave, between 1986 and 1987, over US$1 billion US dollars to rice producers. This, as would be expected, caused injury to the Thai rice producers, especially as this was a time of low world rice prices. There ensued demonstrations in Bangkok in front of the US embassy and there was considerable political pressure on the Thai government to deal with this issue. As a result, Thailand helped set up the Cairns Group in July 1986, which actively negotiated for the removal of agricultural subsidies and trade barriers.

The third category of objectives are the sectoral. In some cases Thailand was seeking liberalisation in other countries, in others it was resisting pressure from other countries to liberalise its own markets. Often, Thailand had its own liberalisation plans but it was unhappy about the additional pressure from outside. The liberalisation of textiles through the scrapping of quotas under the Multifibre Arrangement (MFA), was-- along with agricultural trade reform -- one of the prime objectives of the Thai government. However, the industry remained ambivalent until 1989 when it swung behind the government's position. In financial services, Thailand was already prceeding slowly and unilaterally towards liberalisation, although in the case of insurance, the Uruguay Round probably started the government thinking about opening up the market. However, like many developing countries, Thailand started the round little idea of what liberalising services might actually mean. Once the issues had become clearer, Thai negotiators tended to view liberalisation favourably while departments in immediate charge of specific sectors resented the external pressure. In banking, the Bank of Thailand was willing to merge its own unilateral liberalisation plans with the objective of the Uruguay Round negotiations so long as some freedoms were curbed in the interests of prudence and confidentiality.

The Board of Investment was slow to respond to the Trade-Related Investment Measures (TRIMS) negotiations, almost as if it believed little would result from the talks. In the end Thailand was forced to phase out investment policies that required export performance or at least a specified minimum local content. Thailand reformed its intellectual property legislation and enforcement, mainly in response to bilateral pressure from the US under Section 301. But the measures agreed with Washington were largely in line with what was expected from the Uruguay Round agreement. The extent to which the Uruguay Round per se influenced the Thai intellectual property regime is a moot point.

After the end of the Uruguay Round, Thailand was considering a master plan for liberalising telecommunications, although the definitions of liberalisation and competition under the plan remained controversial. (For example, some phrased in the master plan appear to use the word "competition" to include privatised local monopolies.) During the round, Thailand's position was generally one of reluctant acceptance that commitments might have to be made in telecommunications, although it was unclear what exactly Thailand would have to do. In the end, as with most of the commitments in services, Thailand essentially bound the status quo.

The following sections will concern themselves with assessing these objectives. From time to time the shorthand "Thailand" or "Thai position" creeps in even though there was often no single "Thai" stance. Frequently the negotiators were more liberal than the line agencies, and the government itself could have conflicting positions on the Uruguay Round and on domestic policy, for example seeking an end to foreign subsidies in agriculture while protecting sections of Thai agriculture.

2. Trade Disciplines

Thailand's prime objective in the Uruguay Round, one shared with many other trading nations, was to have law and order imposed on the international trading system. The aim was to have the international trading system ruled by a strong trade disciplines regime and not by the wants and needs of a few powerful countries. This objective translates into higher levels of market access, improved security with regards to market access and strengthened rules governing international trade.

Overall, Thailand achieved its goals with respect to the trade disciplines. However, for certain areas the objectives were not met. The following are brief summaries of what was achieved in the Uruguay Round and whether the goals were achieved for selected GATT disciplines, namely safeguards, anti-dumping measures, subsidies and countervailing duties, the dispute settlement mechanism and customs valuation.

(a) Safeguards

Thailand's main objective in the safeguards negotiations was to clarify and strengthen the rules governing their use. To this end Thailand achieved this objective as the GATT disciplines were clarified and strengthened. A major achievement was the elimination of VERs and other measures that were inconsistent with GATT rules. The overall result of the negotiations is that the use of safeguards should become more transparent. There are regulations for the injury test as well as a sunset clause. However, safeguards are also easier to use now as one of the criteria conditions to be met for their use was removed. In agriculture, the safeguards are easier to apply because the required trigger levels are lower. This is known as the special safeguard clause which can be invoked on those products subject to tariffication if imports rise too rapidly or import price fall too low.

Potential problems facing safeguards are that countries may backload the removal of VERs and thus the benefits of the agreement on safeguards may be realized only at the end of the transition period. Furthermore the use of safeguards may increase as other protectionist tools become prohibited. This increase in use may not necessarily be a negative as safeguards will be replacing less transparent instruments.

(b) Anti-dumping Measures

The aim was to restrain the use of anti-dumping measures (ADMs) and provide a uniform regulatory regime for their use. Prior to the Uruguay Round negotiations there had been two different regulatory regimes; one for contracting parties of GATT 1947 and one for contracting parties to the Tokyo Anti-Dumping Code.

What emerged from the negotiations was a compromise. Rules for anti-dumping duty calculations were tightened and a measure of transparency was added to the use of ADMs. *De minimis* and the use of actual, not arbitrary, data in dumping calculations should result in a decrease in protectionism. However, the sunset clause lacks any strength, and a major failure of the negotiations was that it failed to regulate domestic legislation. The effects of this failure have already manifested themselves in the form of strong anti-dumping legislation in the EU and the USA. The issue of anti-circumvention remains at a standstill and for the time being, a status quo exists between the liberalizing and protectionist forces in the field of anti-dumping.

Thus, apart from minor gains and increased transparency the objectives were not met. However, a uniform set of rules did emerge, which was an improvement on the previous situation. Nevertheless, as often noted in economic and law literature "the antidumping laws not only have no basis for exitence, but they constitute an unnecessary cost to the world economy as well as individual nations. Article VI of the GATT 1994, as well as the Uruguay Antidumping Code, should be withdrawn" (Thomas J. Schoenbaum, An Assessment of the Antidumping Laws After the Uruguay Round Reforms, page 9).

(c) Subsidies and Countervailing Duties

The major goals with regards to subsidies and countervailing duties (CVDs) were to provide a uniform set of rules and clear definitions and to deal with certain country's injury finding methods, namely the United States. With regards to providing a unifor.n set of rules, this was achieved.

A definition of subsidy was negotiated, something that had not been the case previously, along with categories of subsidies that are to be removed and lists as to which ones are actionable and non-actionable. This will provide increased transparency and in effect imposes a tight set of rules for subsidies. A transition period is provided for, and to Thailand's advantage, this period is longer for developing countries than for developed ones. Thus for subsidies the objectives were met.

As for CVDs, a fair amount of progress was achieved. Transparency was increased and regulations provided for the investigation and collection of CVDs. Thus, the issue of certain national methods of injury tests was mainly resolved. However, no sunset clause was negotiated and there exists certain gray areas whose interpretations may lead to increased protectionism. Thus, the verdict for CVDs is a mixed one. Thailand's goal of a uniform set of rules was met, however not all the goals for the CVD investigations and injury finding were met.

(d) Dispute Settlement

The dispute settlement mechanism in pre-Uruguay Round was one of multiple regimes, procedural weaknesses and general inability to resolve disputes. The objective was to transform the DS mechanism into a strong and effective mechanism that could achieve its original intent. Thailand and other developing countries had strong incentives to render the dispute settlement mechanism an effective one as powerful trading nations and blocs, such as the US and the EU, had tried to 'bully' them in bilateral talks where the imbalance in bargaining power often resulted in poor deals for the weaker nations. A strong DS mechanism was seen as a potential shield against such maneuvers where powerful nations and blocs could not use their own legislation, such at the US 301, to force an unfair resolution on the weaker country.

Therefore, the procedural weaknesses were removed, the mechanism was streamlined and automaticity instead of consensus became the *modus operandi*. No longer could a nation block a DS panel, one of the major weaknesses of the previous mechanism. Additionally, a measure of consistency and reliability was added by regulating the panel selection and having an appellate panel. The use of time limits and automatic acceptance of panel's findings insured that the DS mechanism could become an effective one. Thus, on the purely regulatory side of the issue, the objectives were met. However, the real test of the DS mechanism lies in whether it will be used by the Member States and whether nations will abide by its decisions.

A good example of how a country can benefit from using the DS mechanism is the US-Thai cigarette case. The fact that this case took place before the completion of the Uruguay Round demonstrates how the new and improved mechanism can be used to ward off pressure from powerful trading nations.

The USTR had requested the use of article 301 of the Omnibus Trade and Competitivenss Act (US 301) against Thailand because Thailand maintained import restrictions on cigarettes. The USTR also requested that the Thai government undertake a number of steps that allowed US cigarettes to be distributed, advertised and sold in Thailand without much government control, something that even the Thai Tobacco Monopoly is not allowed to do. As the consultations failed, mainly because of these excessive US demands and the refusal of the Thai government to accede to them, a panel was established.

Without going into the actual specifics of the arguments and findings of the panels, some conclusions may be drawn from the outcome of the case. The panel found that the restrictions on imports were inconsistent with GATT disciplines and recommended that Thailand accede to theses disciplines. Thus Thailand had to allow the import of US cigarettes and it would seem that Thailand 'lost' the case. However, Thailand fared quite well as it was able to maintain its control on the distribution and advertising of cigarettes.

The main conclusions to be drawn are that the use of the DS mechanism allowed a country whose practices were under attack from a powerful nation to find a middle ground and not accede to every demand of the plaintiff. In fact, it allowed Thailand, in this case, to receive a much fairer deal than if it had just gone ahead with bilateral negotiations not under the auspices of the GATT DS mechanism. Thus, the lesson to be drawn from this is that nations should use and promote the use of the WTO DS mechanism to resolve their trade disputes.

(e) Customs Valuation

Thailand played a passive role in the customs valuations (CV) negotiations. Discerning what the exact goal was, is therefore difficult, though one may examine the results and see how they fit the current Thai CV policy.

Currently, the Thai customs authorities do not generally accept the invoice price in the majority of cases. About 80% of the imports are assessed by using the valuation prices based upon the maximum prices in the latest month and the latest three months.[2] A study by Santisart (1996) found that the valuation price exceeds the import price by 0.03% to 380% (see Table 2.1). For products in which the maximum prices in the latest month are used, the average difference between the valuation and the import (invoice) prices is 5.5%. The valuation prices of products, whose valuation is based upon the highest prices in the last three months, exceed the invoice price by 8.6%. Table 2.1 also shows that as a result of over-valuation, the effective rate of protection increases by 1%-15% in the majority of product categories, while the domestic prices are increased by 9.2%. Thus, the new CV agreement, which is based on the transaction value, would result in lower domestic prices, lower rate of nominal protection and also a decline in tariff revenue.

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[2] The Thai customs valuation is based upon the Brussel Definition of Value (BDV).

Table 2.1

Impact of Thai Custom Valuation Practices

Input-Output Sector	Valuation price/ import price [3]	Increase in nominal rate of protection (%) [4]	Increase in domestic price (%) [5]	Changes in import value
68 [2]	1.500	50.5	18.75	35.94
84 [1]	1.009	1.0	0.10	0.86
86 [2]	1.114	11.3	2.63	9.43
89 [1]	1.039	3.9	0.99	3.21
92 [1]	1.339	34.1	5.66	29.69
92 [2]	1.552	55.1	14.60	44.21
97 [1]	1.098	10.9	3.05	7.54
98 [1]	1.003	0.0	0.09	0.23
106 [2]	1.136	13.4	1.23	12.64
110 [2]	4.802	380.2	55.24	338.77
112 [2]	1.150	14.9	3.68	12.24
134 [1]	1.144	14.3	4.47	11.04
Average	-	-	9.21	-

Note : [1] Data from Department of Custom

[2] Data from a few importers

[3] Valuation price by the Custom Department $= \hat{P}w$

Import price   =   declared CIF price $= Pw$

[4] Increase in nominal rate of protection (NRP) $= \dfrac{NRP*}{NRP} - 1$

where NRP* = effective NRP

[5] Increase in domestic price $\dfrac{dPd}{Pd} = (\dfrac{\hat{P}w}{Pw} - 1) . \dfrac{t}{(1+t)}$

[6] Percentage change in value of import as a result of over CV.

Source: Isara Santisart (1996).

However, articles 2-7 of the CV agreement allow the customs officers to determine the customs value of imported goods if the transaction value is not acceptable under some conditions. Developing country memebers not party to the Agreement on Implementation of Article VII in 1979 may delay application of the CV provisions for five years. Therefore, if the Thai objective was to maintain temporary status quo before it could fully adjust to the new CV practice, then it partly succeeded. Customs Department has already had plans to adopt the new CV method, particularly a use of the EDI computer system.

The differences on this issue between developed and some developing countries remain wide. However, as Thailand continues to develop it does not depend on tariff revenues as much as other developing countries do and therefore this loss of revenues is not as important issue an issue for Thailand as it may be for other countries.

Furthermore, the case against the new custom valuations pricing system is weakened as Thailand would benefit from a unilateral reduction in tariffs. The new WTO customs valuation process has the same effects as a reduction in tariffs as it reduces the tariff burdens because the "transaction prices" are lowered. The reasons why Thailand would benefit from a unilateral reduction in tariffs are many and varied, and a discussion on them does not lie in the scope of the paper. As was stated previously, Thailand was passive in these negotiations and therefore determining if and whether the objectives were met remains a nebulous task.

Already a trade dispute between the European Union and Thailand has put the agreement on customs valuations under pressure. The specifics of the case are that the EU started to use a reference price to calculate the tariff burden on Jasmine rice imports from Thailand. This reference price was higher than the invoice price and as such the tariff burden increased for the Thai exporters. This EU measure direcly contravened article VII of GATT 1994 (customs valuations) and was a breach of the agreement on customs valuations.

Unfortunately, Thailand felt it best not to pursue this case aggressively and did not request that a panel be established. Instead, Thailand and the EU held a number of consultations that led to a compromise in which Thailand received additional quotas for cassava and broken rice while accepting the use of the refenrence price for two years. This case, demonstrated, that the Thai authorities' attitude towards trade disputes needs to be changed if Thailand is to receive fair treatment from powerful trading blocs and nations. This issue is further discussed in the eighth section entitled "Lessons for the Future".

3. Macroeconomic Effects

Underlying all the objectives was the desire for Uruguay to be welfare improving for Thailand. This study was conducted to quantity the income effects, and thus determine whether Uruguay, according to the model, leads to positive welfare changes.

Thailand's macroeconomy is expected to undergo profound changes as the GATT Uruguay Agreements are put in place. The reliance Thailand's economy has on international trade cannot be denied; exports are a growing percentage of GDP, imports are inputs to be later exported, or they are important consumption goods for consumers in Thailand. By using an equilibrium model of many forms and deviations, worldly researchers have assessed the impact of the Uruguay Agreement on global economies. The models, at best, can only lend way to descriptions of tendencies within economies to move certain ways; prices of goods, exports, and imports, national incomes.

Hertel et all (1995)[3] simulated a dynamic GTAP (Global Trade Analysis Project) model, involving ten sectors and fifteen regions, to forecast the effects of Uruguay on world economies in the year 2005. Uruguay is modeled as incorporating ad valorem tariff reductions, MFA quota increases, and agricultural export subsidy cuts.

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[3] For a full discussion see :Results of the Uruguay Round of Multilateral Trade Negotiations : Market Access for Goods and Services
GATT, Geneva, Nov. 1994.

Three versions of the model were presented, and in only one version did one region undergo negative income effects following the modeled implementation of Uruguay. This region was the Developing and Transition economies, and the negative income effect was caused by the removal of the MFA.

In another paper by Duncan et al[4] (1994), it is shown that the extent of the welfare effect of Uruguay on an economy depends on how complete the Uruguay Agreement is modeled. In particular, it was determined that when a complete Uruguay Round trade liberalization policy (i.e. MFA removal, tariff and nontariff barriers to agricultural goods are removed, industrial goods tariffs are removed) was modeled, Thailand underwent negative welfare effects. It is stated that the negative welfare impact from the phasing out of MFA would outweigh the positive effect of other trade liberalization. The deterioration in welfare is due to the declining terms of trade effects resulting from Uruguay's implementation.

Thailand Development Research Institute composed an econometric model for Thailand, consisting of thirty three equations and one identity, that stresses the importance of international trade (see Appendix 2). In this model. the world prices and foreign income are taken as given, whereas, the Thai domestic prices, exports, imports and income are endogenously determined. Goods are decomposed into nine groups, according to the Standard International Trade Classification scheme. There is a trade block where exports and imports of the nine commodity groups are determined. For all but food Thailand is assumed to be a small country supplier; its supply isn't large enough to affect the world price and thus world price is taken as given (demand is completely elastic). Thailand's exports of food are large enough that it is reasonable to assume Thailand faces a downward sloping demand function. Exports of goods (except food) are determined by profit maximizing suppliers who choose between supplying to the domestic market or the world market. Food exports are determined by equilibrium of

[4] A complete discussion can be found : Analysis of Benefits and Challenges Facing Asia-Pacific Agricultural Exporting Countries in Post-Uruguay Round Period. Duncan, Robertson, and Yang. Nov. 1994.

demand and supply. Import demand is determined by cost minimizing consumers who choose between domestic or foreign goods. The price block is the important bridge in the model, connecting the effects of world prices to domestic prices. It determines domestic price indexes for the nine commodities. All nine price indexes are functions of the GDP deflator, which inturn is a function of the aggregate import price index. There is also a real block and a net capital inflows block.

For the years 1970 to 1995 the model is simulated using data from the Bank of Thailand and the National Economic and Social Development Board. The predictive ability of the model is exemplified by the small Theil's inequality value and the root mean square error values for the endogenous variables.

Counterfactual and forecast simulations are modeled. In both cases to assume Uruguay has been implemented it is necessary to incorporate changes in the exogenous foreign variables. Three changes are assumed to occur when the GATT Agreement is instilled: the import price index decreases, the export price index increases, and foreign income increases. They reflect the removal of inefficient trade barriers. For example, Thailand's commitment to reduce its tariffs in the UR agreement will result in the lower import prices, while the global liberalization will increase the world prices of Thai exports and will affect world income.

The Thai macroeconomy is forecasted for the years 1995 - 2000. It is assumed that the exogenous variables continue on an annual growth path given by their average growth rates in the years 1989 to 1993. Uruguay is assumed to have the added effect of increasing world income and export prices by 1%, and decreasing import prices by 1%. Comparing the forecasted model which incorporates Uruguay and the one which doesn't leads to the conclusion that Uruguay has beneficial effects on the Thai economy: GDP increases, inflation decreases, exports and imports both increase, and the trade balance improves (see Table 3.1).

Table 3.1

The Combined Effect of Each GATT Scenario on Macroeconomic Variables

(Growth%)

Scenario	Real GDP	Trade Deficit	% Inflation	Real Private Consumption	Real Private Investment	Tax Revenue	Exports Values	Imports Values	Capital Inflows	BOP Surplus
A one percent rise in Px (non foods), Pxf	2.21	-6.73	0.57	3.43	1.54	1.26	9.42	4.85	-3.97	6.85
A one percent fall in Pm	-0.16	4.02	-1.93	-0.92	0.03	0.06	2.65	3.04	14.54	-3.68
A one percent rise in Yf	0.89	-1.99	0.25	1.34	0.68	0.58	3.48	1.93	20.02	2.74
Total effect	1.94	-3.32	-1.42	2.42	1.40	1.15	12.26	7.84	36.14	4.64

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The most poignant influence on the Thai macroeconomy is the expansionary effect of the Uruguay Agreements. Table 3.1 indicates that the combined effects on real GDP is positive. Although tariff reductions lead to a decline in net exports and contractionary impacts on real GDP and consumption, they are outweighed by a one percent rise in world income. The positive impacts on growth and investment are intensified further by rising export prices. Since net exports increase, a reduction in Thailand's trade deficit can occur through increased competitiveness created by tariff reductions. Net capital inflows also increase in response to world output expansion and subdued inflation in Thailand. As a result, the surplus in the balance of payments will continue from 1995 to 2000.

Food exports will regain their leading role in Thailand as a source of growth in the post-Uruguay period. If developed countries adhere to subsidy reductions, the increase in food prices in developed countries would guarantee a rise in the food price exports of Thailand. The results from the simulation exercizes also indicate that if the tariff reductions in Thailand do not lead to a decline in domestic import prices greater than the percentage increase in export prices, the beneficial impacts will be more pronounced. The timing of the tariff cut is also important as it can be employed to pacify the overheated economy. Naturally, Thailand would witness widening current account deficit, unless the terms of trade can be improved.

The Uruguay impacts presented in Table 3.1 are the medium term impacts. In the long-run, when the productive capacity of the traded sector is enhanced by capital inflows, the dynamic beneficial impact will strengthen the agreement towards eliminating trade barriers.

4. Exports

Similar to the quantitative study on Thailand's macroeconomic performance, this study quantities the changes that can be expected due to Uruguay to determine whether the objective of Uruguay being welfare enhancing was met.

Total merchandise exports continue to increase; in 1993-95 they grew by over 20%. However, the composition of goods for which Thailand is a net exporter is evolving. In the early 80's agricultural exports surpassed manufactured goods. Now, agricultural goods account for less than one fifth of all exports, while manufactures are more than three fifths. In 1993, electrical and mechanical equipment, garments, fish (canned and fresh), precious stones, rubber, cereals (mainly rice and maize), fruits and vegetables, and plastics constituted Thailands most important exports. After 1993, medium ot high technology manufactured exports have surpassed labor intensive manufactured exports.

Thailand's main export markets are the US, Japan, and the EU. In 1993 these three regions accounted for, respectively, 21.6%, 17.1%, and 16.7% of Thailand's exports, or together, over 500 million Baht.

The result of the Uruguay Round is a complex, multilateral trade Agreement that extends into important areas of international trade previously not included in GATT's legal text; areas, such as, agricultural goods, clothing and textiles, services, and intellectual property rights. Succinctly, Uruguay advocates liberalization of trade in goods and services. Tariffs on agricultural goods, and manufactured goods are to be bound and reduced. Non-tariff barriers, such as quotas, are to be made more transparent and subsequently reduced, especially for trade in clothing and textiles, and agricultural goods. Export and domestic subsidies to agricultural producers are to be reduced. Health and sanitary standards are to be made universal across contracting parties. The schedule for employing these liberal trade measures differs across "developing" and "developed" countries, in hopes of meeting their unique needs.

A comparison between the sectors which are newly included in GATT, especially agricultural goods, clothing and textiles, and the export products which are presently important to Thailand should lend way to the conclusion that the Uruguay Round will have poignant effects on Thailand's exports. This paper tries to determine, quantitatively, the effects the tariff reductions will have on Thailand's exports. Although it is understood that the removal of nontariff barriers will greatly effect Thailand's exports, it is also realized that a quantitative assessment of their effects would be more than difficult. Thus, only tariff reductions are considered for the empirical work. Nontariff effects are to be added qualitatively.

Empirical work focusing on the top fifty exports to each of the USA, the EU and Japan quantitatively determines the approximate effects Uruguay will have on Thailand's exports via tariff reductions. By using the price elasticity of import demand for each good and incorporating the depth of the tariff cut as a price reduction, the empirical work determines the export expansion path for each good due to the MFN tariff cuts given by the Uruguay Round. The export expansion potential represents a value assessment, in millions of Baht, of the expected change in exports due to the tariff cut. In this model it is assumed that exports from Thailand are completely elastic. Thus, it is only the import demand that matters, as Thai producers will supply whatever quantity is desired.

The price elasticity of import demand, a minimum and maximum, are required for each good inorder to calculate a range for the expected export expansion potential. The elasticities are determined by one of three ways: empirically, by use of the apparent elasticity, or by the price elasticity of the relevant product group. Empirically, the import price elasticity of demand is given by the coefficient of the Ln of Price when it is used as an independent variable in the regression determining the Ln of Exports. The apparent elasticity is an average of the change in quantity divided by the change in price, over numerous years. The relevant product group elasticity is the elasticity that is used when data is in shortage. The relevant product group elasticity would be the general elasticity of the category to which the product belongs: agriculture, or jewelry, or electrical

equipment, to name a few. For each good, one of these three ways of calculating its elasticity is utilized and both a minimum and a maximum elasticity of import price demand is determined. The average (absolute value) price elasticities for all products (minimum, maximum) destined to the US are (.586, 4.044), for the EU is (.39, 4.08) and for Japan is (.536, 4.165). Notice that goods destined to Japan have the highest maximum price elasticity.

Before April, 1994, Japan had the highest average tariff base rate of 8.5%, and the US and the EU both had an average tariff base rate of 6.8%. Following the complete administration of the Uruguay Agreement, the average percentage reduction, calculated by an unweighted average, in MFN tariffs are highest for Japan (79.43%), followed by the US (44.83%) and then the EU (31.22%). These reductions are calculated using the Marrakesh Protocol to the GATT 1994, schedules of market access concessions. The percentage changes in tariff rates are then determined as appropriate price cuts for each good by the formula:

Price Cut = (Base Average-Bound Average)/ (1+ Base Average)

where the Base Average is the rate prevailing prior to Uruguay, and the Bound Average is the Uruguay rate prevailing when the Agreement is completely implemented.

The Export Expansion Potential for each good is calculated, by:

Export Potential = Price Cut * Import Demand Price Elasticity * Existing Import Value, where the Existing Import Value is that prevailing in 1993.

The export potential for each good is determined twice; once using the minimum, and once using the maximum import price elasticity. Then, for each country the aggregate is calculated.

Table 4.1

The Total Export Expansion Potential (in millions of Baht)

Country	minimum	maximum
US	1 590.6	8 004.8
Japan	1 625.5	10 606.1
EU	226.4	2 565.3

Source: Pupphaves 1996.

Table 4.1 shows that, following Uruguay, Thailand's export may expand substantially with a minimum expansion estimated at 3.44 billion baht (.490 export value in 1993) and a maximum of 21.2 billion baht (2.390 export value in 1993) in the three major markets of the United States, Japan and the European Union. Japan offers the most promising export expansion for Thailand through larger tariff reduction coupled with higher price elasticity of import demand relative to the United States and the European Union.

Moreover, the tariff reduction coverage of Japan is more relevant to Thailand's export interest, i.e. covering more export items from Thailand than those of the United States and the European Union.

Several major export items of Thailand received only binding offers from the United States and the European Union and hence, would not have export impact in our calculations. This probably reflects Thailand's weak negotiating power and lack of significant reciprocal offers.

The promising export expansion in Japanese market is, however, a potential. This study could not take into account non-tariff barriers in Japan which might be restrictive and more difficult for Thai exporters to overcome. Also, problems were met while trying to estimate the elasticities of import demand which were unavoidable given the

constraints on data availablity. For example, the reflection to real values that the apparent elasticity and the elasticity of the relevant product group have is in doubt. It must be kept in mind that the above export potentials could be outward biased. In particular, it seems likely that the determined magnitudes of export expansions given by the model are far greater than what is likely to occur in Thailand following the Uruguay implementation. The determined price cuts don't incorporate the cases where the actual tariff rate is below the bound rate. Thus, the price cuts a used in the model are positively biased. Income effects are not considered at all.

5. Agriculture and Textiles

As was mentioned earlier, the Thai officers believed that Thailand would gain substantially from trade liberalization of both agriculture and textiles. This belief was translated into action as Thailand was not only one of the founding members of the Cairns group which played a key role in the agriculture negotiations, but it also lobbied actively for rich countries to stop restricting their imports of textiles and clothing. However, the research indicates that the gains from liberalized agricultural trade may be very modest. In fact, Thailand could suffer a net loss at the end of the ten year MFA phase-out transition period.

(a) Agriculture

a) Agriculture : Dualism in Thai Agriculture Policy : As one of the active members of the Cairns Group, Thailand's explicit objective is to achieve the global liberalization of agricultural trade. However, the study by Poapongsakorn (1996) found that the gain from the Uruguay Round Agreement in term of higher prices and expansion of Thai major agricultural exports would be more modest than has been expected by the Thai officers. At the same time, the agreement has allowed Thailand to protect a number of import-substituting crops and to provide higher level of domestic support in the next 10 years. Fortunately, for certain commodities, the actual rate of protection is much lower than that implied by the bound duty rates and the tariff quotas.

Briefly, in the schedules of commitment, Thailand has bound the tariffs of 741[5] items of tariff lines and has offered market access for 23 products, while reserving the right to invoke special safeguards for 111 products. Although Thailand has subsidized agricultural exports, particularly rice, it stated that it had no export subsidies. Thailand's aggregate measure of domestic support is 22 billion baht, which is more than doubled the actual subsidy in 1986-88 as estimated by Kasetsart University.

As one of the major exporters of agricultural products, the Thai trade officers have boasted that Thailand will benefit significantly from the Uruguay Round agreement on agriculture. They always point out that a number of studies, which were carried out before the conclusion of the Round, show that prices of major Thai exports, particularly rice and sugar, will increase.

However, the studies, which are done after the conclusion of the Round, show that agricultural protection remains very high in both the developed and developing countries. In many countries, the level of protection has even increased (Ingco 1995; Goldin and Mensbrugghe 1995; Hathaway and Ingco 1995). Hathaway and Ingco (1995) concluded that "while there were significant reforms in the rules, the Uruguay Round achieved little or no liberalization in agriculture." The quantitative assessment by Goldin and Mensbrugghe (1995) suggests more modest gains than had been anticipated.

There are many reasons why the Round does not achieve much liberalization in agriculture. They include dirty tariffication, aggregation issues, choice of base period, problems arising from special and differential treatment and exceptions, special safeguards and state enterprises (Ingco 1995; Hathaway and Ingco 1995; Siamwalla 1995 and also see the impact of these problems in Table 5.1).

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[5] 971 items according to the HS harmonized system with 10 digits

741 items according to the HS harmonized system with 6-7 digits

Table 5.1

Fine Prints and Loopholes in the Agriculture Agreement

Loopholes	Impact
1. Dirty tariffication	1. Higher border protection in both developed and developing countries
2. Choice of base period	2. Higher level of subsidy
2.1 1986-90 or 1991-92 for export subsidy	2.1 Higher export subsidy in the base period
2.2 1986-88 for domestic support and tariffication	2.2 It was the period of highest level of protection and subsidy.
3. Aggregation issue	
3.1 Market access for product at 4-digit level	3.1 Can prevent import of sensitive products
3.2 Cuts in import tariff by a simple average of 36% with at least 15% reduction for each 4-digit tariff line	3.2 Tariff on sensitive imports will be cut by only 15%
3.3 Cuts in domestic support as a whole by 20%	3.3 May not have to cut support for politically sensitive products
4. Special and differential treatment and exceptions	
4.1 Delay tariffication (Annex 5)	4.1 A few countries can maintain non-tariff barriers.
4.2 Developing countries are allowed to delare ceiling tariffs where they were previously unbound	4.2 Very high tariffs which are completely unrelated to previous level of protection.
4.3 Decoupled income support is in the green box	4.3 The measure is trade and production distorted.
4.4 Direct income support payment (deficieny payment) is exempted from AMS reduction	4.4 Large amount of subsidy in the developed countries remain intact. Such supports were used as export subsidies of some products.
5. Other problems	
5.1 Special safeguards are easier to apply	5.1 Non-transparent tariff
5.2 State trading agency	5.2 Exclusive rights to control imports in many countries

Source: (1) Hathaway and Ingco 1995
       (2) Siamwalla 1995
       (3) Poapongsakorn 1996

As far as the impact of the Round on prices is concerned, most studies of the actual Agreement found that, except for sugar and dairy products, the range of price changes, particularly rice, will be less than 10 percent (Brandao and Martin 1993; Duncan, et.al 1995, Vanzetti, et.al. 1994). However, Siamwalla (1995) argued that the forecast of a large increase in the price of sugar may not be correct, because of a prominent weakness in the models; they do not properly handle the problem specific to the sugar sector, particularly the quantitative restrictions on import and quota allocation. Thus the USDA (1993) believed that most of the impact on the sugar market will be derived from higher income and thus higher consumption in some Asian countries. The agriculture Agreement alone will not have much effect on the world sugar trade and production. Since sugar prices will not increase much, Thailand will not be able to gain much from the agreement. It will not be able to export to the EU and the US markets because all the import quotas under the current access commitment have been allocated to countries under the previous special arrangement.

The increase in rice prices will mainly come from the importation of 0.96 million tons of Japonica rice by Japan and Korea in 2000. Thailand will benefit only indirectly from such market opening because Thailand does not produce short-grain rice. The direct beneficiary will be the countries growing short-grain rice. As production expands, farmers in some areas will also switch grain types, reducing the supply of long grain. Thus, USDA estimates that one-third of the increase in world imports will be long grain. In effect, the prices to the Thai farmers may increase by at most 1%-2% per year.

As mentioned in the introduction, Thailand has a stake in liberalization of the world rice trade. However, the actual Agreement and the schedule of commitments do not indicate that Thailand had carefully negotiated on the rice issue. The Agreement also shows that Thailand had little bargaining power. When the Japanese trade negotiators secretly negotiated with the United States for a delay in the tariffication of its quantitative restriction on rice import (Annex 5 of the Final Act), the Thai officers could do nothing. If the Japanese could choose the countries from which they imported rice, Japan would

have chosen Thailand as it did in 1993. This is because Thai long grain rice is not a good substitute for Japonica rice, and thus is not a competitor. However, the Japanese had to settle the deal with the most powerful nation, the United States. Therefore, Thailand failed to negotiate and receive access for long grain rice. Moreover, and worse, Korea also applied for a delay in the tariffication of rice. Thai officers asked, in return for the delay, access of one million tons of tapioca pellets into the Korean market. They should have known that the Thai exporters had been given incentive to export tapioca pellets at the price which is below the average cost in exchange for the bonus export quota to the EU market. They also failed to get something in exchange for the Philippines' tariffication delay of rice imports. Also Thailand did not fight against the role of state enterprises in the handling of rice import quotas, particularly in Indonesia and Malaysia. This can probably be explained by the fact that Thailand itself would like to use the state enterprise as a means to protect its market. Last but not least, although the Cairns group was not happy with the Blair House agreement between the US and the EU, it did not strongly opposed the agreement, particularly the agreement that the EU compensation payments and the US deficiency payment would be exempted from reduction. As a result, certain commodities, particularly rice in the US, will still enjoy higher level of subsidy.

The case of Thai exports of boneless chicken to the EU reflects the fact that it is extremely difficult for a small developing country to examine in great details the schedule of commitments of its trading partners. In this case, the EU's method of estimating the current access and minimum access is different from the method agreed in the Round. According to the agreement text, the member should allow the current access, defined as the average import volume for 1986-88. If there is no previous import or import are is less than 5% of domestic consumption, then a minimum access of 3% of consumption must be allowed in 1995. Accordingly, the EU should provide current access for imported poultry at 0.83 million tons, or minimum access of 0.27 million tons. But the EU commited to offer only 0.029 million tons of minimum access. The EU's calculations take 'domestic consumption' to mean 'domestic consumption of domestic

produce' excluding imports. The EU's current access quota of 0.519 million tons did not include poultry imports. But its calculation of minimum access is as follows: 5% of average domestic consumption of meat and poultry minus average import of meat and poultry, which is 0.1246 million tons, including imports under the oil-seed compensation scheme. The EU determined that the minimum access of poultry was 0.029 million tons from the minimum access of 0.1246 million tons for all kinds of meat. Note that the EU's minimum access for poultry is much lower than that obtained by the GATT's method.

Thailand will not get extra benefits from its exports of tapioca pellets to the EU since the EU maintains their current access quota and tariff rates at the same level as those stipulated in the bilateral tapioca agreement between Thailand and the EU. In fact, Thailand may not be able to maintain the same level of exports, 5.5 million tons a year, at the quota tariff, because the CAP reform will push down the cereal prices, and hence the tapioca prices in the EU market. Animal feed producers in some parts of the EU will switch to use the cereals in their production.

However, there will be some unexpected gains for the Thai exporters of tropical products because the tariff rates for both the raw materials and processed products have been lowered. But the gain will not be much, as the annual export value was only 71,000 million baht in 1994 (or about 35% of agricultural exports) and the tariffs in the developed countries are already very low.

The new Sanitary and Phyto-sanitary Agreement will have a small positive impact for the Thai exports of flowers and orchids. Cut flowers and orchids are unlikely to face protectionist problems in the EU because Thai products are imported during the European off-season. The most serious obstacles are in South Korea, where the flowers are charged high import duties under policies aimed at discouraging trade in "luxury goods".

But infection, infestation and chemical residues remain a problem, both because they are genuine contaminants of Thai products and possibly because they serve as an excuse for protectionism. Three or four shipments to South Korea, worth tens of thousands of baht each, are destroyed each year because of infection, according to Thai exporters interviewed. Japan and the United States are also strict about phytosanitary regulations. Japan is the third largest market for Thai cut flowers after the EU and US, taking about 40% of Thai exports.

In the context of the Uruguay Round Agreement on Sanitary and Phyto-sanitary regulations, one of the problems is the existence of different standards and regulations for different countries, despite international standards for fumigation set by the Food and Agriculture Organization and the IPPC. The fussiest are South Korea, Mexico and India, even though these countries do not import large quantities from Thailand. After inspection, South Korea quarantines the orchids for two or three days. Thailand successfully, negotiated a reduction from five days, but even this can cause wilting, further eroding the orchids' competitiveness against local flowers. Mexico is particularly strict about thrips. India is concerned about viruses in orchids.

The protectionist threat to Thai canned seafood exports is unlikely to be serious because the Thai bureaucracy has tended to react swiftly when action is taken in importing countries such as France and Italy. In some cases, the Thai industry has successfully met international standards, for example an agreement reached with Canada in 1990.

Some problems remain, however, such as appropriate storage of fish on board fishing vessels, and excess use of antibiotics with cultivated shrimps. In many cases the issue is bad management in Thailand rather than abuse of sanitary regulations in importing countries. Japan, which is concerned about contamination of seafood from Thailand, has provided technical assistance, but the advice has not always been followed.

In general, the main issues that Thailand has to tackle are : the need to ensure that chemicals such as pesticides and additives are used properly, and the need for the government to monitor, closely, developments in health regulations in other countries. Although the impact of the new SPS on Thai import is not clear, it may help Thai exports provided that they meet the international standards.

Perhaps one of the most important reasons for the Thai Minister of Commerce to accept the Uruguay Round Agreement is the introduction of tariff quotas. When Thailand offers to open its market to 23 agricultural products, it acquirs the image of a free trader. However, the tariff quotas have certainly allowed the politician to legitimately allocate import quotas, and protect selected producers.

Before the implementation of the UR agreement in 1995, Thailand did not strictly control imports of powder milk, even though the importers were required to buy a fixed amount of fresh milk from the farmers in exchange for a ton of imported milk. Therefore, imports of powder milk increased from only a few thousand tons in 1985 to 77,000 tons in 1994. But after the implementation of the agriculture Agreement, troubles in quota allocation began to emerge. In the early 1996, the Ministry of Commerce was very slow at issuing the quotas, resulting in complaints from the milk processors and the emergence of a market for import permits. After intensive lobby by the milk processors, the Ministry began to allow more import quotas.

One should not be surprised by the intervention of the Ministry of Commerce because import quotas always bring about quota rents for the importers. History tells us that quota allocation has always been non-transparent. There are a few important criteria that the Ministry of Commerce uses for the allocation of import quotas for 23 products, i.e., past import performance; importers have to be state trading agency or producer; importers are required to buy certain amount of products from the domestic market. Yet the Ministry always muddles with the detailed formula of quota allocation. As a result, some importers become the "most favored importers."

But one is surprised why the actual imports of some important products are much higher than the bound quotas (see Table 5.2). While more imports tend to reduce the quota rent, the rapid increase in domestic demand for some products may prevent the quota rent from falling to zero. Therefore, the importers will have an incentive to lobby for more quotas. Although increased imports tend to lower the quota rent per ton of imports, total quota rent may increase, depending upon the magnitude of the shift in the demand, and the relative values of price elasticities of demand and supply. Therefore, the increase in total quota rents generated by higher demand is the reason behind the expansion of import quotas for maize, soybean, soybean cake and powder milk (see Table 5.2). The fact that the actual tariff rates are lower than the bound rates can be seen as a means to maintain the importers' quota rent.[6]

Table 5.2, which presents the market access for 23 agricultural products, also indicates that Thailand wants to protect its agricultural sector. Firstly, the bound rates of quota tariffs are very high, ranging from 20% to 65%. The highest rates of in-quota tariffs are for sugar (65%), tobacco leaves (60%), and instant coffee (40%), reflect the political power of these producers. In many cases, the bound rates are much higher than the actual rates, e.g., soybean, soybean cake, maize and powder milk. The Ministry of Finance, which is responsible for the tariff structure and tariff setting, refused to lower the bound rates to the actual rates because it wants to maintain flexibility in the policies of tax revenue and protection (see part 9 below). In some cases, particulary rice and longan, the high tariff rates are redundant because Thailand still enjoys large comparative advantage in the exports of both products. The second observation from Table 5.2 is that the tariff quotas for 10 agricultural products are so small (less than 500 tons) that it may not be commercially feasible to import.

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[6] Note that although higher imports allowed by the Ministry of Commerce will benefit the consumers in term of lower prices, only a handful of most-favored importers are able to reap the quota rent. This is why the livestock producers still complain that their feed cost is higher than when imports of feed materials are not controlled.

Table 5.2

Thailand's Access Commitments on Agricultural Products

Products	Tariff Quota			Non-Quota Tariff Rate		Actual	
	Quota (ton)		Rate	1995	2004	Quota	Rate
	1995	2004	(%)	(%)	(%)	1995	(%)
1. Milk, not concentrated	2,286	2,400	20	46	41		
2. Milk, Concentrated	45,000	55,000	20	240	216	79,920	5
3. Potatoes	288	302	27	139	125		
4. Onions	348	365	27	158	142		
5. Garlic	62	65	27	63	57		
6. Coconut	2,312	2,427	20	60	54		
7. Copra	694	1,157	20	40	36		
8. Coffee	5	5	30	100	90		
9. Tea	596	625	30	100	90		
10. Pepper	43	45	27	57	51		
11. Maize	52,095	54,700	20	81	73	400,000	8
12. Rice	237,883	249,757	30	58	52		
13. Soya Bean	10,402	10,922	20	89	80	278,934	5
14. Onion Seeds	3	3	30	242	218		
15. Soya Bean Oil	2,173	2,281	20	162	145		
16. Palm Oil	4,629	4,860	20	159	143		
17. Coconut Oil	382	401	20	58	52		
18. Cane or Beet Sugar	13,105	13,760	65	104	94		
19. Instant Coffee	128	134	40	55	50		
20. Soya Bean Cake	219,580	230,559	20	148	133	754,863	15
21. Tobacco Leaves	6,129	6,436	60	80	72		
22. Raw Silk	460	483	30	257	226		
23. Longan, Dried	5	8	30	59	53		

Source: (1) Department of Business Economics

(2) Department of Customs

Finally, Thailand may have attempted to block the importation of certain products by (a) allocating the exclusive import rights of five products to state trading agencies and the producer representatives, namely, coffee bean, milk, garlic, onion and sugar; and (b) allocating the import quotas on the seasonal basis, e.g. soybean and soybean cake.

(b) Textiles

Under the WTO Agreement, textile and garment import quotas are to increase, and be eliminated, completely, over a three year period. That is, quotas have to increase 16%, with 17% of all products fully liberalized in the first phase (1995-1997). In the second phase (1998-2001), import quotas are to increase by 25%, with 27% of all imports liberalized. Finally, the last stage (2002-2004) will see the import quotas grow by another 27% and trade will be completely liberalized. Since the importing countries are allowed to choose which categories will be liberalized in each of the three stages, most countries plan to postpone liberalizing the most sensitive products until the last stage.

Thailand will receive a higher share of textile and garment quotas in the US market, then the EU market. The textile quota share will increase from 8% in 1994 to 9% in 2004, in the same period the garment quota share will increase from 4% to over 5%. In the EU market, Thailand's share of the garment quota will increase from 3% to 5%, however its textiles quota share will remain at 6.7%.

Despite these increases, the assessment of the impact on Thailand's welfare will be slightly negative, at the end of the ten year period of the MFA liberalization. The estimates, based upon a partial equilibrium model, range from a gain of 8.7 billion Baht to a loss of 2.3 billion Baht for cloth exports to the Unites States, and a 56.4 billion Baht gain to a 14.7 billion Baht loss for garment exports. For the European Union, the figures range from a 9.1 billion Baht gain to a 1.3 billion Baht loss for cloth and 33 billion Baht gain to a 7.9 billion Baht loss for garments (see Table 5.3). These figures are derived under the assumption of no technological improvement.

Table 5.3

Net Welfare Impact of the MFA Liberalization on Thailand

Assumptions	Export to the US		Export to the EU	
	Textile	garment	Textile	garment
1) Pure Competition - E_d = 1.24 for US 2.20 for EU	8.164	45,946	11,694	41,541
- E_d = 5.00	8,723	56,357	9,133	33,310
2) Imperfect competition - 15% of rent to importers - 50% of rent to importers	6,798 (2,307)	43,871 (14,737)	6,795 (1,339)	25,692 (7,918)

Note : E_d = price elasticity of demand for imports

Source : Suphat Suphachalasai 1996.

It is believed that the imperfect market assumptions yielding predictions of net loss are the most plausible[6]. One reason is that major importers will not liberalize the product categories that are of most interest to Thailand until early next century. The sudden removal of quotas on the more important categories of Thai exports in the last stage will reduce the prices of the Thai products[7] and eliminate the quota rents to Thailand. IF the world markets for textiles and garments were imperfect, the reduced prices would more than offset any gains from the expansion in export quantities resulting from liberalization.

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[6] The ANU's estimates, using the general equilibrium model, also confirm that Thailand will suffer a net welfare loss from the Uruguay Round agreement because the loss generated by the MFA liberalization will exceed the gains from liberalization of the agricultural sector (Duncan et al., 1995).

[7] Using various assumptions about the price elasticity of import demand in the United States and the European market, and the additional growth factor, the textile study found that the MFA phase out will not result in a fully competitive environment before the end of the third stage of liberalization (see S. Suphachalasai, 1996).

Another reason is that Thailand, whose comparative advantage in textiles is heavily determined by cheap labour, is now facing higher wages and labour shortages. The rising labour costs will be more serious for the garment industry because in this industry it is difficult to substitute machinery for labour. Other provisions of the WTO agreement could also hurt Thailand, particularly 'safeguard' clauses that allow importing countries to unilaterally curb imports abruptly in order to prevent surges of imports that threaten the domestic industry.

However, the magnitude and direction of the impact depends on whether Thai producers can become more efficient, particularly by adopting new technologies and by switching to higher value products. It also depends on the bargaining power of the importers in the United States and the European Union. The government can mitigate the negative impact by providing incentives for companies to improve the productivity of their work force and by helping them cut costs. The most important policy measure that will greatly reduce the production costs is to lower tariff rates for imported raw materials and petrochemical resins which are inputs for the fibre and finishing industries. Moreover, procedures for obtaining tax relief on in-house training and for import duty rebates should be streamlined.

6. Services

The [Thai] authorities are convinced that the GATS will promote expansion of world trade in services; however, they fear that Thai firms will not be able to compete, particularly in financial services, because of weak capitalization and a lack of experience." (WTO. Trade Policy Review Thailand 1995, page xv).

The authorities view, as described above, of trade in services determined what their goals for the negotiations were. The Thai objectives for the services negotiations may be characterized as one of: yes to liberalization, but not just yet. Thailand wanted an agreement on trade in services but it did not want to commit itself to any liberalization in

trade in services until it had achieved domestic reforms and assured itself that the Thai companies would be able to compete.

Thus, it may be said that Thailand achieved its goals. The GATS was successfully negotiated and is seen as promoting international trade in services by providing transparency and progressive liberalization. However, as noted by the WTO's Trade Policy Review of Thailand in 1995 : "despite overall satisfaction with the results of the Uruguay Round, the Thai government had expressed the following concerns: ... (e) Thailand's weakness in terms of capital and experience in certain services activities might allow developed country transnational corporations to dominate domestically" (page 20).

To examine if and how Thailand achieved its twin objectives of providing the framework for service trade liberalization without committing itself to liberalizing immediately the insurance and telecommunications sectors were examined. The objectives in each and the results are as follows.

(a) Insurance

The ultimate objective was to liberalize. However, in the short run Thailand wished to protect its market to allow the Thai insurance companies to grow and become competitive. Thailand achieved these goals, as the groundwork for future liberalization negotiations was set down, but no concrete liberalization was decided. In fact, Thailand only inscribed in its schedule what had previously been permitted and thus did not liberalize at all. Thus, Thailand actually fully met its goals here.

Further more, Thailand's commitment to further liberalization has also been confirmed as it recently allowed foreign shareholding in Thai companies to increase from 25% to 49% and further steps towards liberalization are planned. However, as was noted in the paper on the insurance sector, Thailand may wish to reconsider its goals for the insurance sector as the Thai companies may prove unable to compete with foreign life insurance transnationals if past performance of Thai companies is any indicator of future performance.

The structure of the life insurance industry in Thailand is one of foreign dominance. Although there is only one foreign firm in the market, it controls at least 50% of the market, as may be seen in Table 6.1 below. The Thai companies, in comparison to this foreign firm, are uncompetitive and inefficient. Thus the life insurance industry may be characterized as one where the Thai companies are weak and one in which the government's fears about transnationals dominating the market may prove true.

Table 6.1

Market Shares

Type of Insurance	Market Share (%)					
	Thai Companies		Foreign Companies		Top five companies	
	1990	1992	1990	1992	1990	1992
Ordinary	45	44	55	55	94	94
Industrial	100	100	0	0	100	100
Group	56	51	44	49	86	79
Total	47	52	43	48	92	91

Source: Vichyanond (1996).

A good example of just how inefficient the Thai life insurance companies are compared to the sole foreign company (AIA) is the expense ratios. The expense ratio is the underwriting expense divided by the net premium. As may be seen in Table 6.2 below: AIA's expense ratios are about 4% while the "Big" Thai companies are in the region of 20% and the "Small" Thai companies are even higher than their bigger compatriots.

Table 6.2

Expense ratios by company and year.

Expense Ratio				
Year	AIA	Big	Small	Foreign 25%
1990	4.25	20.17	36.30	29.56
1991	4.67	21.83	35.42	25.56
1992	4.78	20.15	28.17	23.20
1993	3.90	17.76	21.47	20.36

Source: Vichyanond (1996).

The non-life insurance industry is markedly different from the life insurance industry in its structure. Not only are there many more firms competing, but many Thai firms perform better than the foreign companies. This is partly because of the nature of the Thai non-life insurance market. Its a very connection driven one which will grow proportionally with economic growth. Thus, for non-life insurance the government's fear are unfounded. As one may see from from Table 6.3 (i) below, no one firm dominates the market, and Thai companies account for most of the market.

Table 6.3 (i)

Non-life insurance: Market shares of premium.

Company	Market Share (%)		
	1990	1991	1993
"Big"[8] Thai			
B1	8.63	8.44	7.09
B2	1.32	0.57	1.02
B3	2.71	1.66	1.97
B4	2.28	2.95	2.35
"Small"[9] Thai			
S1	0.87	0.67	0.71
S2	0.60	0.54	0.44
S3	0.16	0.07	0.21
S4	0.57	0.50	0.19
Foreign			
F1	1.05	0.78	0.69
F2	0.40	0.37	0.26
F3	4.50	1.06	2.80
F4	2.28	1.72	1.61
F5	0.80	1.91	1.50
Total of 5 Foreign	**9.02**	**5.85**	**6.86**
Total 56 Thai	**90.19**	**92.71**	**93.14**

Source: Vichyanond (1996).

Table 3 (ii) below shows the expense ratios of the non-life insurance companies. As may be seen, on average the big Thai companies perform better than the foreign companies. This confirms that the Thai companies in this industry should be able to compete in a liberalized market.

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[8] This refers to the four biggest Thai companies.

[9] This refers to the smallest four Thai companies.

Table 6.3 (ii)

Expense Ratios by company type and year.

Company	Expense Ratio				
	1990	1991	1992	1993	Average
Thai Companies					
Big 4 Companies	31.50	25.20	24.19	22.34	**25.81**
Small 4 Companies	32.06	38.21	43.87	32.59	**36.68**
Foreign Companies					
The 5 companies	31.25	33.56	33.58	28.97	**31.84**

Source: Vichyanond (1996).

The last indicator chosen to demonstrate the competitiveness of the Thai companies in the non-life insurance market is the returns on assets (ROA). Table 3 (iii), below, provides the staticstics for this indicator.

Table 6.3 (iii)

Return on Assets by company type and year.

Company	ROA				
	1990	1991	1992	1993	Average
Thai Companies					
Big 4 Companies	7.38	8.99	6.77	4.97	**7.03**
Small 4 Companies	-2.18	2.50	3.51	-1.03	**0.70**
Foreign Companies					
The 5 companies	7.13	10.70	8.70	15.83	**10.59**

Source: Vichyanond (1996).

These ROAs indicate that the foreign companies have the best returns on assets, closely followed by the big Thai companies. The small Thai companies, however, seem to be facing difficulties in making their assets perform well and this is reflected in their low average ROA. Thus, the overall picture in the non-life insurance industry is one where no one company, foreign or Thai, dominates the market. Furthermore, the big Thai

companies perform on or above par with the foreign companies. Only the small Thai companies seems be having problems competing

(b) Telecommunications

The Thai objectives for the telecommunications sector were the same as for the insurance sector, however, the motivations were different. The Thai government had to re-negotiate its commitments with private service providers in Thailand before it could liberalize the Thai market. However, the Thai government ultimate policy objective was to liberalize this sector. As in the previous sector, Thailand achieved its dual goals. Not only was the framework for future liberalization in this sector laid down but Thailand also did not have to liberalize its sector any further than it wished to. In fact, Thailand did not commit to its national schedule anything that had not already been open to foreign competition and did not add any further commitments. However, as in other service sectors, Thailand committed itself to future liberalization.

Thus once the domestic commitment have been resolved, Thailand can pursue a liberalization policy. Unlike the case of the insurance companies, the private Thai telecommunication companies are prepared to compete in a liberalized market. This assessment may be verified by examining the structure of the Thai telecommunication industry.

The telecommunications sector used to be dominated by the two government enterprises: Telephone Organization of Thailand and the Communications Authority of Thailand. These in effect were the regulators and the monopoly suppliers of telecommunication services. However, they proved unable to meet increased demand and as a result concessions were awarded to private companies. These companies, two in fixed line service provision and two more in mobile phones, along with other concessions in other services, have effectively doubled the provision of telephony services in the past four years (for fixed line service this may be seen in the graph below).

Figure 6.1   Telephone Density : A Comparison Between Bangkok and Provinces
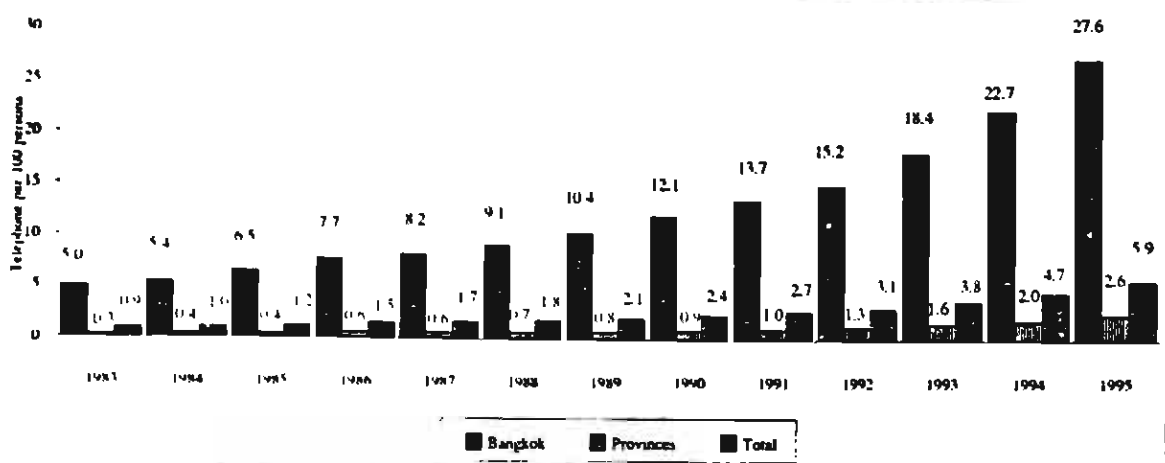
Note : In 1993-1995, including telephone lines installed by TA and TT&T.
Source : TOT

As may be seen from Figure 6.1 above, the telephone densities of both the provinces and Bangkok have more than doubled since 1992, the year in which the first concession was awarded.   Additional concessions to other private firms are being considered currently.   The present performance of these companies would indicate the ability, and willingness, to compete in a liberalized market.   However, a major weakness remains in the Thai telecommunications sector, this is the two public enterprises which have proved to be inefficient and uncompetitive.   Their fate needs to be resolved prior to liberalizing the market.

7. Trade and the Environment

(a) The Trends

A major hurdle that the WTO will have to clear in the coming years is the one of the environment.   Specifically, how will the WTO deal with environmental concerns and issues that impinge on international trade and its disciplines.   An examination of the current trends will provide some idea of the challenges with which the WTO will be faced.

There are three main trends in the field of international trade and the environment. The first trend is the incorporation of environmental rules in international trade agreements. The main trend-setter here is NAFTA. As links between international trade and the environment become explicitely included in trade agreements, the WTO will have to modify or add new rules and disciplines to adapt to the new reality.

The second trend is unilateral moves. The degree of importance attached to the protection of the environment varies between countries and as such the measures they take will correspondingly vary. However, the WTO will face major challenges to its disciplines if these measures infringe on the trading rights of member countries. A now notorious example of a unilateral measure that impinged on the trading rights of a fellow member country is the Tuna-Dolphin case between the USA and Mexico. The WTO is likely to face more such challenges and will have to use the mechanisms at its disposals to deal with these.

The third and last trend is the one of voluntary measures. Examples of such measures are eco-labelling and ISO. The WTO need not concern itself with these as they are voluntary and ultimately place the choice of environmental protection in hands of the consumers. Thus unless these become mandatory then the WTO will not face any challenges from this type of measure.

(b) To intervene or not to intervene?

The question of when the WTO should intervene in the case of a trade dispute involving environmental measures will gain importance as environmental awareness increases and governments are increasingly pressured to take measures to protect the environment. This is a complex and difficult question, yet through the use of the table below it can be simplified into four situations. The following table depicts a two by two matrix that covers all possibilities for trade disputes. First, whether the product in question is covered by a Multilateral Environmental Agreement (MEA) or not, second, are both or only one of the countries signatories to the MEA.

Countries Status	Covered by MEA	Not covered by MEA
Both Members	1.	2.
One Member one non-member	3.	4.

Case 1. : Product is covered by MEA and both countries are Members of the MEA. In this case if one of the Members imposes trade sanctions on the other for a breach of the MEA then the WTO should not intervene. There should be dispute settlement mechanism in the MEA and the fact that it is covered by the MEA means that for signatories the WTO rules will not apply for this product.

Case 2. : Product is not in MEA but both countries are signatories. In this case the imposition of trade sanctions on the part of one country upon the other is contrary to WTO rules and as such the WTO may intervene. This is because the product does not fall under MEA and therefore is subject to WTO disciplines.

Case 3.: The product is covered by a MEA but one of the countries involved in the trade dispute is a non-members to the MEA. The WTO should intervene as the non-member cannot be sanctioned under an agreement to which it is not party to.

Case 4.: Neither the product is covered in the MEA nor are both countries members of the MEA. The only time that the WTO should not intervene in this case is if the country that applies the trade sanction does in a National Treatment fashion. That is to say that internally there are equivalent measures against the product in question and so, in effect, the exports from the other countries are not discriminated against. However, if it is not the case of National Treatment then the WTO should intervene.

(c) Policy Recommendations

Thailand will have to monitor external events and trends concerning the environment to insure that it remains abreast of the issue. Thailand should survey its own environmental institutions and policies to assess if they are sufficient to insure that trade and development policies are implemented in a sustainable manner. Furthermore, the natural resource and environmental policies should be strengthened and devised in such a manner that sustainable development is assured.

Free trade and protection of the environment both increase societal welfare. To sacrifice one for the other would be a short-sighted and ultimately injurious decision. To favour one over the other would eventually lead to a decrease in societal welfare as such it is the task of the Thai policy makers to devise an appropriate balance of the two.

8. Lessons for the future

(a) Trade Rules

The lessons for Thailand in the field of trade rules are quite simple. Now that the trade disciplines have been negotiated there promises to be a less chaotic international trading system. Thailand must insure that these disciplines are actually enforced and respected. This may be approached in a dual manner.

First, Thailand should insure that its legislation is in line with the WTO rules and that they are adhered to by the Thai trade authorities. Second, Thailand should defend these rules, whenever they are infringed. This should be done using the new trade dispute mechanism. This mechanism allows for consultations prior to the actual establishment of a panel. Therefore Thailand may not actually need to go before the trade dispute panel if the issue can be resolved in such consultations. Using the DS mechanism will lend credence and also encourage other countries to utilize it. Also, Thailand is likely to receive a fairer deal if it goes through the DS mechanism than if it engages in bilateral discussions, especially if the other party is a powerful trading nation or bloc.

Furthermore, the Thai trade authorities must change their attitude towards infringements of trade rights from a passive to an aggressive one. If Thailand allows other nations to infringe on its trading rights then it is tacitly agreeing to the weakening of the trade disciplines that were dearly sought for in the Uruguay Round.

This change in attitude may be possible only after internal changes to the institutional structure in Thailand. There will be an increasing need for Thailand to have a permanent organization that negotiates and protects Thai trading rights. This may take the form of the USTR or the Japan MITI or a third Thai version. There will also have to be improved monitoring procedures on the part of the Thai international trade authorities. This is to insure not only that the agencies hired to represent Thailand fulfill their contracts but also, more importantly, that the Thai officials gain experience and technical expertise in trade laws and disputes.

There is one more important lesson to be learnt from previous trade disputes is the need to the 'clean'. By "clean" it is meant that the Thai government and Thai companies should abide by WTO rules and by Thailand's own domestic laws. To illustrate this lesson two actual trade dispute cases may be drawn upon. These are the US-Thailand Canned Pineapple anti-dumping case and the New Zealand-Thailand Condensed Milk case.

Briefly, the facts of the cases are as follows. For the Pineapple case, the USTR initiated an anti-dumping case against Thai exports. This was because Thailand had lowered its export price to match the Indonesian prices, while having higher costs. The results of the case were that anti-dumping duties were imposed on the Thai companies. The reason why dumping was found rests solely on the shoulders of the Thai companies.

The explanation is as follows: the Board of Investment (BOI) of Thailand provided tax relief for the production of pineapple juice. Many of the pineapple exporting countries took advantage of this policy by fudging their accounts. In effect, what they did was to overstate the proportion of juice to canned production, thus

receiving tax relief for what was in reality a portion of their canned production. Unfortunately for the Thai companies, the American investigators used the data from the BOI and thus found dumping.

The other case is the New Zealand-Thailand Condensed Milk Case. In this one, the company accused of receiving subsidies from the Thai government actually did not accept any subsidies from the government. As such, the company was cleared and no counter-vailing duties were applied. This company had been 'clean' and had thus avoiding being forced to pay additional duties.

(b) Negotiations

The main issue here is whether Thailand should pursue negotiations in individual sectors or participate in broad multi-sectoral negotiations. When the cases of the Thai insurance and telecommunications sectors are examined, it would seem to be that Thailand would be best served by individual sector negotiations. This is because the Thai companies in one sector may be prepared for liberalization while this may not be the situation in another sector. A brief analysis of the insurance and telecommunications sectors will provide the rationale for pursuing individual sector negotiations.

The Thai insurance companies are unprepared to compete in a liberalized market, especially in the domain of life insurance provision. Though liberalizing the market may force the Thai companies to become more efficient and competitive and weed out the uncompetitive companies, there are several risks involved in such a policy.

Insurance policies are a form of long-term savings for consumers. Thus there need to be prudential conditions imposed to insure that these savings are protected. If foreign firms were to dominate the market, and subsequently suffer financial difficulties and collapse, then Thai consumers would lose these savings even though their savings are in theory in Thailand and the Thai government would lack the means to intervene. Additionally, as these savings represent investment funds, there would be the risk that the foreign companies would not invest in Thailand, but rather repatriate these funds and

invest in their home markets. In effect this would be a form of capital flight, which would be injurious to the Thai market. Thus the Thai policy makers need to consider whether the best interests of Thailand would be served by liberalizing.

Whereas liberalizing the insurance sector merits further consideration, the telecommunication sector would benefit now from such a policy, though with certain caveats. First, the Thai government need to re-negotiate the concessions for the private service providers. Second, the issue of the two public enterprises, Telephone Organization of Thailand and Communication Authority of Thailand, needs to dealt with, either by privatizing them or separating the roles of operator and regulator.

The Thai private service providers are not only competitive domestically, but also on a regional basis. Regional liberalization of telecommunications should be the goal for the Thai negotiators. This will enable the Thai companies to expand their external operations and become regional telecommunication service providers.

Thus, for trade in services, there exists a situation where Thailand would benefit from liberalization of one services sector but not from another. Therefore, individual sector negotiations would be best for Thailand as this would allow the liberalization of one sector and not the other. However, other countries may face similar situations involving other sectors, therefore, there may be a need to a broad multi-sectoral negotiations if there is to be any liberalization. This is because countries would be able to bargain cross-sector and thus have more elbow-room in the negotiations than if only a single sector was under negotiation.

A last lesson to drawn from previous negotiating experiences is the need for allies. Allies allow a division of labour in the negotiations and lend weight to the negotiating position. Thus, Thailand should seek to forge strong ties with its ASEAN partners in future negotiations. This will strengthen the Thai-ASEAN position in the negotiations and also allow each country to concentrate on a specific issue or sector.

9. Political economy of Thai negotiating policy

Externally, Thailand faced two major constraints in trying to achieve its objectives: it lacked bargaining power; and it lacked the resources, expertise and analytical skills to handle the range of complex issues being negotiated.

For some of the time, having little bargaining power meant doing nothing while the major powers did all the talking. Sometimes this led to a feeling of helplessness, particularly during the 1991-92 period when agriculture became a bilateral US-EU issue. But much of the time Thailand, and a number of other countries, tried to increase their bargaining power and to inject some of their own input into the final agreements. The main means was through coalition building.

Thailand participated in two major coalitions. It helped set up the Cairns Group and was the most active member of the group among ASEAN countries. The final impact of the Cairns Group on the Uruguay Round agriculture agreement is hard to measure because so much of what the Cairns Group proposed was similar or identical to the United States' proposals. The evidence - including comments from a whole range of negotiators interviewed - suggests that the existence of the Cairns Group weakened the resistance of the European Union and probably Japan. Accounts of the launching ministerial meeting in Punta del Este in 1986, the mid-term review in Montreal in 1988 and the abortive concluding conference in Brussels in 1990, all indicate that the Cairns Group's weight was felt.

For Thailand, membership of the Cairns Group undoubtedly meant much greater bargaining power, even when compared to the alternative of a dozen or so like-minded countries working together informally. The group's voice was clear, and its poorer members gained from the technical analysis provided in particular by Australia. But the peformance was not flawless. The Uruguay Round negotiations separated export subsidies, domestic supports and trade barriers on imports. For the crops of interest to countries such as Australia, Canada and Argentina, this distinction was valid, and the

focus of the group's criticism against US policy was on export subsidies known as the Export Enhancement Program. For the crop of greatest interest to Thailand, rice, the Export Enhancement Program was a trivial measure because it was hardly ever used. The fact that most of US rice production is exported together with the combined effect of various domestic subsidies blurred the distinction between domestic support and export subsidy. Credit subsidies and income deficiency payments (the latter still permitted under the Uruguay Roung agreements, althoughwith weaker effect) were used specifically to set US domestic prices in a way that would keep rice exports competitive. The domestic supports were being used as export subsidies because such a small proportion of production was consumed domestically. The analysts at the Thai Agriculture Ministry and the negotiators at the Thai Commerce Ministry did not appreciate the distinction. As a result the Cairns Group did not address this issue, and subsidised US rice exports have escaped some of the disciplines imposed on export subsidies by the Uruguay Round agreement.

Thailand's other major coalition was ASEAN. In some cases, this meant a slight increase in the country's voice. ASEAN was one of the first groups of developing countries to swing away from the hardline opposition to a new round during the preparations of 1985-86. It also made some moderately influential interventions in a number of Uruguay Round issues such as intellectual property and textiles. ASEAN officials met regularly in Geneva as the ASEAN Geneva Committee. Sometimes the outcome was a common ASEAN position, but some participants say the committee's most important role was for exchanging information. This underscores the fact that ASEAN was not just a means of increasing its members' bargaining power. Perhaps the most significant role that ASEAN played was to allow a division of labour among its members, a means of getting around the shortage of expertise and other resources. It allowed Thailand to concentrate on agriculture, Indonesia to concentrate on textiles, Malaysia and the Philippines to concentrate on vegetable oils and other tropical products, and Singapore to concentrate on some of the GATT rules. They were ASEAN's spokesmen in the respective issues.

There were other coalitions, but with a lower profile. The most important was the association of Southeast Asian Central Banks, SEACEN , which submitted an important proposal on financial services.

One of SEACEN's concerns was to prevent liberalization from turning into anarchy and an imprudent banking system.

Internally, the biggest problem for Thaliand was devising a coherent, comprehensive position that balanced the many issues and interests. There were two aspects to this problem. One was the almost complete lack of interest in Uruguay Round subjects in normal domestic political debate. Most of the positions were devised by officials, at best anticipating for example how farmers would react to prices depressed by an international subsidy war. The only industry group to take an interest throughout was textiles and garments. This group was forced to monitor developments because it had to track the quota regimes and bilateral negotiations under the Multifibre Arrangement. Even the Thai Bankers Association, normally a powerful and well-informed pressure group, had little to say on the financial services negotiations.

The second aspect was weakness in coordinating between the ministries concerned. This weakness ran all the way to the top, with Cabinet ministers, sometimes even from the same party, disagreeing on Uruguay Round policy. The clearest instance was when the Finance Ministry, under minister Tarrin Nimmanhaeminda (a Democrat) refused to put an improved market access offer on the table in the closing stages of negotiations in late 1993, early 1994. Deputy Prime Minister Supachai Pantichpakdi (also a Democrat), who was in overall charge of the Thai negotiators,wanted a new conditional offer that would be withdrawn if other countries did not respond. This offer would reduce the proposed bound tariff rates, but the bound rates would still be no lower - and often higher - than the actual rates charged by the Finance Ministry. Finance MinisterTarrin, who was preparing his own unilateral tariff cuts that would take effect from 1995, felt that any increased market access Thai exports might gain would not be

worth the loss of flexibility resulting from lower bound rates, even if none of the bound rates were going to affect the rates that were actually being charged.

Sometimes the coordinating weaknesses were caused by territorial jealousy, as in the case of the market access bindings. Sometimes they were worsened by bad personal relations among officials in different as well as among the ministers themselves. Sometimes the weaknesses were simply the result of a lack of interest in some ministries even though those ministries had ultimate responsibility for the sectors being negotiated. For example, arousing the Transport and Communications Ministry's interest in the Uruguay Round proved a difficult task even though telecommunications (and to a lesser extent maritime transportation) became important sectors under negotiation.

But despite these internal weaknesses, externally Thailand acquired the reputation of an active participation in the round. And ultimately there was something for everyone. Even the Commerce Ministry, with its free-trade oriented negotiators, could be satisfied with the opportunities for rent seeking arising form the tariff quotas approved under the Uruguay Round agriculture agreement.

Appendix 1

List of Research Papers

Phanupong Nidhiprabha, P. Wrasai, A. Lim and J. Kennedy. (1996). *Evaluating the Uruguay Round Impact on the Thai Economy.* Thailand Development Research Institute. Bangkok

Wisarn Bupphaves, B. Nidhiprabha, C. Phuengphinij and J. Kennedy (1996). *The Effects of the Uruguay Round on Thailand's Exports* Thailand Development Research Institute. Bangkok.

Nipon Poapongsakorn and J. Kennedy (1996). *The Impact of Uruguay Round on Thailand's Agricultural Sector.* Thailand Development Research Institute. Bangkok.

Suphat Suphachalasai (1996). *The Effect of the GATT's Agreement under the Uruguay Round to Thai Textile Industry.* Thailand Development Research Institute. Bangkok.

Pakorn Vichayanond, N. Boonyaprapatsara and N. Farooq (1996). *The Impact of the Uruguay Round on the Assurance and Insurance Markets in Thailand.* Thailand Development Research Institute. Bangkok.

Nattapong Thongpakde and N.Farooq (1996). *Thailand's Telecommunication Sector and the General Agreement on Trade in Services.* Thailand Development Research Institute. Bangkok.

Tashmai Rikshasuta and N. Farooq (1996). *The Rules of WTO Multilateral Agreement and International Trade Policy Recommendations.* Thailand Development Research Institute. Bangkok.

Isra Santisart and N. Farooq (1996). *Customs Valuations, Pre-Shipment Inspection and Technical Barriers to Trade.* Thailand Development Research Institute. Bangkok.

Appendix 2
Thailand's Macroeconomic Model

Estimation Results

Foreign Trade Block :

$$(1)\ \ln X_1^S = -3.239 + 0.424^{***} \ln P_1^x - 0.094 \ln P_1^d + 0.832^{***} \ln Y_1$$

$$(-3.571)\ (2.998) \qquad (-0.318) \qquad (5.109)$$

Adjusted R-squared = 0.982   S.E. of regression = 0.076

Durbin-Watson stat = 2.347

X_1^S = export values of foods (real)

P_1^x = export price index of foods

P_1^d = domestic price index of foods

Y_1 = value added of foods

$$(2)\ \ln X_2^S = -8.223 + 0.977^{***} \ln P_2^x - 1.124^{***} \ln P_2^d + 1.084^{***} \ln Y_2$$

$$(-4.890)\ (5.838) \qquad (-4.862) \qquad (4.211)$$

Adjusted R-squared = 0.876   S.E. of regression = 0.167

Durbin-Watson stat = 1.663

X_2^S = export values of beverage and tobacco (real)

P_2^x = export price index of beverage and tobacco

P_2^d = domestic price index beverage and tobacco

Y_2 = value added of beverage and tobacco

(3) $\ln X_3^S = -20.165 + 0.953^{***} \ln P_3^x - 1.616^{***} \ln P_3^d + 2.341^{***} \ln Y_3$

$\quad\quad\quad (-9.418) \quad (5.324) \quad\quad (-7.726) \quad\quad (10.904)$

Adjusted R-squared = 0.904 $\quad\quad\quad\quad\quad$ S.E. of regression = 0.107

Durbin-Watson stat = 1.555

X_3^S = export values of crude materials (real)

P_3^x = export price index of crude materials

P_3^d = domestic price index of crude materials

Y_3 = value added of crude materials

(4) $\ln X_5^S = -7.813 + 0.311 \ln(RP_5^x) + 0.788 \ln Y_5$

$\quad\quad\quad (-1.084) \quad (0.504) \quad\quad\quad (1.148)$

Adjusted R-squared = 0.465 $\quad\quad\quad\quad\quad$ S.E. of regression = 0.623

Durbin-Watson stat = 2.270

X_5^S = export values of animal and vegetable oils and fats (real)

RP_5^x = relative price of export price to domestic price index of animal and vegetable

$\quad\quad$ oils and fats

Y_5 = value added of animal and vegetable oils and fats

(5) $\ln X_6^S = -16.545 + 0.624 \ln P_6^x - 1.439^{**} \ln F_6^d + 2.600^{***} \ln Y_6$

$\quad\quad\quad (-10.215) \quad (0.823) \quad\quad (-2.087) \quad\quad (7.901)$

Adjusted R-squared = 0.989 $\quad\quad\quad\quad\quad$ S.E. of regression = 0.124

Durbin-Watson stat = 2.017

X_6^S = export values of chemicals (real)

P_6^x = export price index of chemicals

P_6^d = domestic price index of chemicals

Y_6 = value added of chemicals

(6) $\ln X_7^S = -10.041 + 1.296^{***} \ln P_1^x - 1.667^{***} \ln P_7^d + 1.411^{***} \ln Y_7$

$\qquad\qquad$ (-12.717) (3.585) $\qquad$ (-3.896) $\qquad\quad$ (12.856)

Adjusted R-squared = 0.984 $\qquad\qquad\qquad$ S.E. of regression = 0.102

Durbin-Watson stat = 1.911

X_7^S = export values of manufactured goods (real)

P_7^x = export price index of manufactured goods

P_7^d = domestic price index of manufactured goods

Y_7 = value added of manufactured goods

(7) $\ln X_8^S = -11.387 + 1.047^* \ln P_8^x - 0.314 \ln P_8^d + 1.469^{***} \ln Y_8$

$\qquad\qquad$ (-3.210) (1.969) $\qquad$ (-0.175) $\qquad\quad$ (4.423)

Adjusted R-squared = 0.982 $\qquad\qquad\qquad$ S.E. of regression = 0.198

Durbin-Watson stat = 1.450

X_8^S = export values of machinery (real)

P_8^x = export price index of machinery

P_8^d = domestic price index of machinery

Y_8 = value added of machinery

(8) $\ln X_9^S = -5.688 + 1.059^{***} \ln P_9^x - 0.665^{**} \ln P_9^d + 1.016^{***} \ln Y_9$

$\qquad\qquad$ (-7.152) (3.458) $\qquad$ (-2.562) $\qquad\quad$ (7.577)

Adjusted R-squared = 0.996 $\qquad\qquad\qquad$ S.E. of regression = 0.087

Durbin-Watson stat = 1.244

X_9^S = export values of miscellaneous manufactured goods (real)

P_9^x = export price index of miscellaneous manufactured goods

P_9^d = domestic price index of miscellaneous manufactured goods

Y_9 = value added of miscellaneous manufactured goods

$(9) \ln P_1^X = -4.456 + 0.595^{***} \ln P_1^W + 1.476^{***} \ln Y_t^f - 0.334^{***} \ln X_1^D + 0.429^{***} \ln P_1^X(-1)$

$\quad\quad (-5.992)\ (5.122) \quad\quad (4.126) \quad\quad (-2.600) \quad\quad (4.449)$

Adjusted R-squared = 0.961 \hfill S.E. of regression = 0.072

Durbin-Watson stat = 1.857

Breusch-Godfrey Serial Correlation LM Test: F-statistic = 0.115 [0.891]

P_1^X = export price index of foods

P_1^W = world food price index

Y_t^f = world gross domestic products index

X_1^D = export value of foods (real)

$(10)\ \ln IM_1 = -19.849 - 0.381 \ln RP_1^{im} + 1.758^{***} \ln Y_t$

$\quad\quad (-9.168)\ (-1.208) \quad\quad (11.436)$

Adjusted R-squared = 0.978 \hfill S.E. of regression = 0.127

Durbin-Watson stat = 1.830

IM_1 = import values of foods (real)

RP_1^{im} = relative price of import price to domestic price index of foods

Y_t = gross domestic products (real)

$(11)\ \ln IM_2 = -12.991 - 0.801^{**} \ln P_2^{im} + 0.059 \ln P_2^d + 1.388^{***} \ln Y_t$

$\quad\quad (-3.639)\ (-2.133) \quad\quad (0.112) \quad\quad (3.695)$

Adjusted R-squared = 0.753 \hfill S.E. of regression = 0.221

Durbin-Watson stat = 1.945

IM_2 = import values of beverage and tobacco (real)

P_2^{im} = import price index of beverage and tobacco

P_2^d = domestic price index of beverage and tobacco

Y_t = gross domestic products (real)

(12) $\ln IM_3 = -17.069 - 0.410^{***}\ln P_3^{im} + 1.732^{***}\ln Y_t$

(-17.416) (-2.741) (15.816)

Adjusted R-squared = 0.977   S.E. of regression = 0.109

Durbin-Watson stat = 1.910

IM_3 = import values of crude materials (real)

P_3^{im} = import price index of crude materials

Y_t = gross domestic products (real)

(13) $\ln IM_4 = -5.248 - 0.134^{*}\ln P_4^{im} + 0.846^{***}\ln Y_t$

(-3.018) (-1.789) (6.714)

Adjusted R-squared = 0.949   S.E. of regression = 0.086

Durbin-Watson stat = 1.747

IM_4 = import values of mineral fuels and lubricant (real)

P_4^{im} = import price index of mineral fuels and lubricant

Y_t = gross domestic products (real)

(14) $\ln IM_5 = -5.095 - 1.515^{**}\ln P_5^{im} + 2.721^{***}\ln P_5^{d} + 0.113\ln Y_t$

(-1.099) (-2.070) (3.917) (0.240)

Adjusted R-squared = 0.561   S.E. of regression = 0.520

Durbin-Watson stat = 1.004

IM_5 = import values of animal and vegetable oils and fats (real)

P_5^{im} = import price index of animal and vegetable oils and fats

P_5^{d} = domestic price index of animal and vegetable oils and fats

Y_t = gross domestic products (real)

(15) $\ln IM_6 = -14.306 - 1.035^{***} \ln P_6^{im} + 1.102^{***} \ln P_6^{d} + 1.430^{***} \ln Y_t$

$\qquad\qquad (-16.240)\ (-3.803)\qquad\quad (2.509)\qquad\quad (24.820)$

Adjusted R-squared = 0.987 $\qquad\qquad\qquad$ S.E. of regression = 0.068

Durbin-Watson stat = 2.068

IM_6 = import values of chemicals (real)

P_6^{im} = import price index of chemicals

P_6^{d} = domestic price index of chemicals

Y_t = gross domestic products (real)

(16) $\ln IM_7 = -19.073 - 0.610^{**} \ln P_7^{im} + 0.018 \ln P_7^{d} + 2.010^{***} \ln Y_t$

$\qquad\qquad (-9.634)\ (-2.311)\qquad\quad (0.053)\qquad (10.218)$

Adjusted R-squared = 0.975 $\qquad\qquad\qquad$ S.E. of regression = 0.120

Durbin-Watson stat = 1.783

IM_7 = import values of manufactured goods (real)

P_7^{im} = import price index of manufactured goods

P_7^{d} = domestic price index of manufactured goods

Y_t = gross domestic products (real)

(17) $\ln IM_8 = -24.754 - 1.285^{***} \ln P_8^{im} + 0.398 \ln P_8^{d} + 2.544^{***} \ln Y_t$

$\qquad\qquad (-5.463)\ (-2.553)\qquad\quad (0.791)\qquad (5.662)$

Adjusted R-squared = 0.963 $\qquad\qquad\qquad$ S.E. of regression = 0.140

Durbin-Watson stat = 1.901

IM_8 = import values of machinery (real)

P_8^{im} = import price index of machinery

P_8^{d} = domestic price index of machinery

Y_t = gross domestic products (real)

(18) $\ln IM_9 = -11.324 - 0.589^{***} \ln(RP_9^{im}) + 1.165^{***} \ln Y_t$

$\qquad (-5.629) \quad (-3.673) \qquad\qquad (8.150)$

Adjusted R-squared = 0.937 $\qquad\qquad$ S.E. of regression = 0.135

Durbin-Watson stat = 1.958

IM_9 = import values of miscellaneous manufactured goods (real)

RP_9^{im} = relative price of import price to domestic price index of miscellaneous

manufactured goods

Y_t $\quad$ = gross domestic products (real)

Real Block :

(19) $C_t^P = 31192.25 + 0.530^{***} C_{t-1}^P + 0.365^{***} Y$

$\qquad\qquad (1.929) \quad (3.382) \qquad (3.885)$

Adjusted R-squared = 0.999 $\qquad$ S.E. of regression = 13571.98

Durbin-Watson stat = 1.734

C_t^P = private consumption expenditures

Y_t = gross domestic products

(20) $I_t^P = -40781.38 + 0.744^{***} I_t^P(-1) + 0.138^{***} Y_t - 1646.379 \text{ MLR}$

$\qquad\qquad (-1.347) \quad (4.826) \qquad (2.604) \qquad (0.521)$

$\qquad$ -91077.85^{***} **D90**

$\qquad$ (0.0005)

Adjusted R-squared = 0.982 $\qquad\qquad$ S.E. of regression = 255292.5

Durbin-Watson stat = 1.259

I_t^p = private capital formation expenditure (real)

Y_t = gross domestic products (real)

MLR = Minmum lending rate

D90 = Dummy variables (1990 = 1, Ohterwise = 0)

(21) $TAX_t = -42370.258^{**} + 0.862^{***}TAX_t(-1) + 0.075^{***}Y_t$

$\quad\quad\quad\quad (-2.498) \quad\quad (7.735) \quad\quad\quad\quad (2.641)$

Adjusted R-squared = 0.995 $\quad\quad\quad\quad\quad$ S.E. of regression = 13234.93

Durbin-Watson stat = 1.208

TAX_t = goevernment tax revenue

Y_t = gross domestic products (real)

Price Block :

(22) $P_t^d = -18.464 + 0.368^{***} P_t^{im} + 27.029^{***} (Y_t/Y_t^*) + 0.595^{***} P_t^d(-2)$

$\quad\quad\quad (-2.234) \quad (6.381) \quad\quad\quad (3.882) \quad\quad\quad\quad (7.657)$

Adjusted R-squared = 0.990 $\quad\quad\quad\quad\quad$ S.E. of regression = 0.037

Durbin-Watson stat = 1.327

P_t^d = GDP deflator

P_t^{im} = aggregate import price index

Y_t/Y_t^* = excess capacity output (real)

(23) $\ln P_1^d = 0.097 + 0.976^{***} \ln P_t^d$

$\qquad$ (0.634) (28.386)

Adjusted R-squared = 0.995 $\qquad$ S.E. of regression = 0.026

Durbin-Watson stat = 2.177

P_1^d = domestic price index of foods

P_t^d = GDP deflator

(24) $\ln P_2^d = -0.041 + 0.252^{**} \ln P_t^d + 0.759^{***} \ln P_2^d(-1)$

$\qquad$ (-0.316) (2.309) $\qquad$ (7.940)

Adjusted R-squared = 0.987 $\qquad$ S.E. of regression = 0.052

Durbin-Watson stat = 1.663

Breusch-Godfrey Serial Correlation LM Test: F-statistic = 0.654 [0.531]

P_2^d = domestic price index of beverage and tobacco

P_t^d = GDP deflator

(25) $\ln P_3^d = 0.203 + 0.351^{**} \ln P_t^d + 0.607^{***} \ln P_3^d(-1)$

$\qquad$ (1.152) (2.309) $\qquad$ (4.469)

Adjusted R-squared = 0.968 $\qquad$ S.E. of regression = 0.076

Breusch-Godfrey Serial Correlation LM Test: F-statistic = 1.842 [0.185]

P_3^d = domestic price index of crude materials

P_t^d = GDP deflator

(26) $\ln P_4^d = -129.507 + 2.652^{***} \ln P_t^d$

$\qquad\qquad$ (-0.017)$\quad$(4.989)

Adjusted R-squared = 0.966 $\qquad\qquad$ S.E. of regression = 0.115

Durbin-Watson stat = 1.918

P_4^d = domestic price index of mineral fuels and lubricant

P_t^d = GDP deflator

(27) $\ln P_5^d = 0.359 + 0.255 \ln P_t^d + 0.664^{***} \ln P_5^d(-1)$

$\qquad\qquad$ (1.951)$\quad$(1.738)$\qquad$(4.803)

Adjusted R-squared = 0.957 $\qquad\qquad$ S.E. of regression = 0.083

Breusch-Godfrey Serial Correlation LM Test: F-statistic = 2.166 [0.142]

P_5^d = domestic price index of animal and vegetable oils and fats

P_t^d = GDP deflator

(28) $\ln P_6^d = 1.448 + 0.671^{***} \ln P_t^d$

$\qquad\qquad$ (3.292)$\quad$(6.860)

Adjusted R-squared = 0.970 $\qquad\qquad$ S.E. of regression = 0.054

Durbin-Watson stat = 1.495

P_6^d = domestic price index of chemicals

P_t^d = GDP deflator

(29) $\ln P_7^d = 0.043 + 0.476^{***} \ln P_t^d + 0.826^{***} \ln P_7^d(-1) - 0.310^{**} \ln P_7^d(-2)$

$\quad\quad$ (0.252) (3.318) $\quad\quad\quad$ (4.297) $\quad\quad\quad$ (-2.018)

Adjusted R-squared = 0.979 $\quad\quad\quad$ S.E. of regression = 0.058

Breusch-Godfrey Serial Correlation LM Test: F-statistic = 0.565[0.578]

P_7^d = domestic price index of manufactured goods

P_t^d = GDP deflator

(30) $\ln P_8^d = 0.809 + 0.808^{***} \ln P_t^d$

$\quad\quad$ (1.911) (8.915)

Adjusted R-squared = 0.995 $\quad\quad\quad$ S.E. of regression = 0.024

Durbin-Watson stat = 1.683

P_8^d = domestic price index of machinery

P_t^d = GDP deflator

(31) $\ln P_9^d = 0.426 + 0.392^{***} \ln P_t^d + 0.519^{***} \ln P_9^d(-1)$

$\quad\quad$ (2.851) (3.098) $\quad\quad\quad$ (3.781)

Adjusted R-squared = 0.970 $\quad\quad\quad$ S.E. of regression = 0.062

Breusch-Godfrey Serial Correlation LM Test: F-statistic = 0.735[0.492]

P_9^d = domestic price index of miscellaneous manufactured goods

P_t^d = GDP deflator

$$(32)\ \ln CF_t = -8.705 + 0.294\ \Delta\ln(r^d\text{-}r^f) - 7.992^*\ \Delta\ln e_t - 3.655\ \ln(P_t^d/P_t^f) + 2.477\ \ln Y_t^f$$

$$(\text{-}1.756)\quad (0.481)\qquad\quad (\text{-}1.818)\qquad\quad (\text{-}1.174)\qquad\qquad (1.627)$$

$$+\ 0.741^{**}\ \ln CF(\text{-}1)$$

$$(2.522)$$

Adjusted R-squared = 0.850   S.E. of regression = 0.539

Breusch-Godfrey Serial Correlation LM Test: F-statistic = 0.403 [0.674]

CF_t = net capital inflows

$r^d\text{-}r^f$ = interest rate differentials (MLR/LIBOR)

e_t = bilateral exchange rate (BAHT/U.S.dollar)

$P_t^d\ P_t^f$ = relative price of domestic and foreign price index (GDP deflator/WPIUS)

Y_t^f = world gross domestic product index

Notes : *   indicates significance at 90% confidence interval

        **   indicates significance at 95% confidence interval

        ***   indicates significance at 99 % confidence interval

        The figures in round parentheses below the estimated coefficients are student

        t- statistics

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