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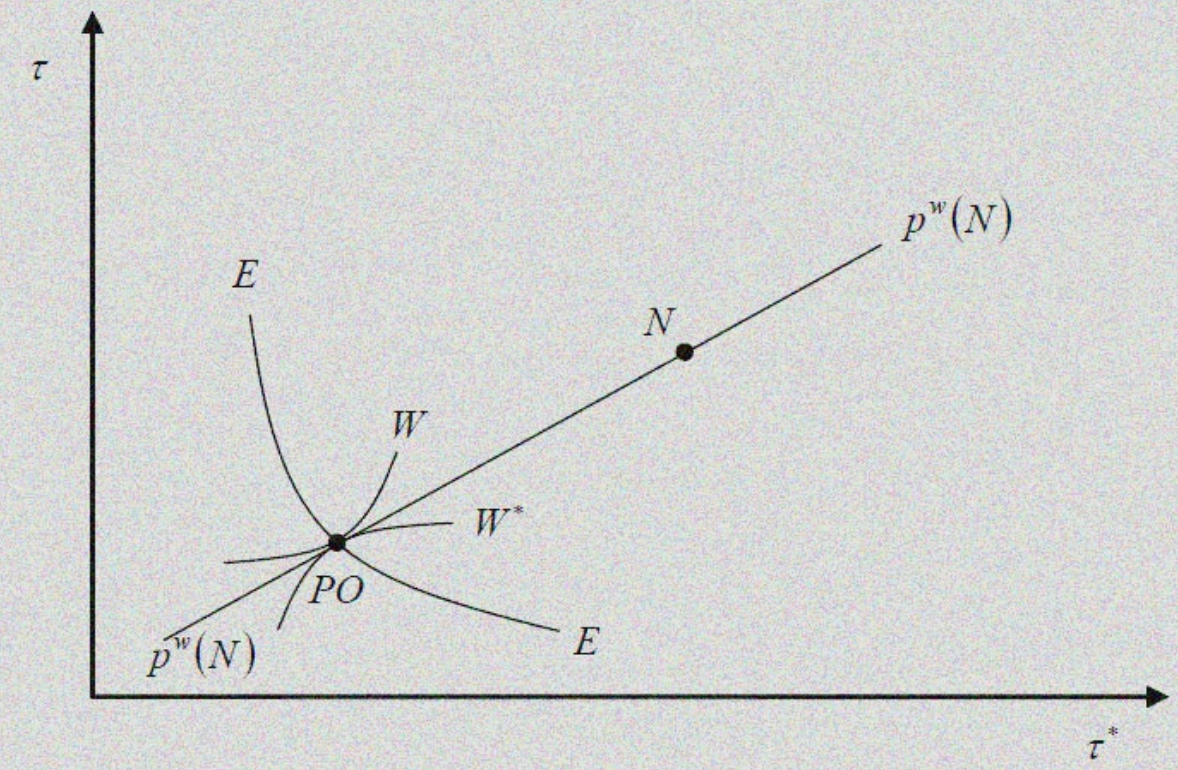
Accession to the WTO: Part I

Computable General Equilibrium Analysis: The Case of Ukraine

Igor Eromenko



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Computable General Equilibrium Analysis:

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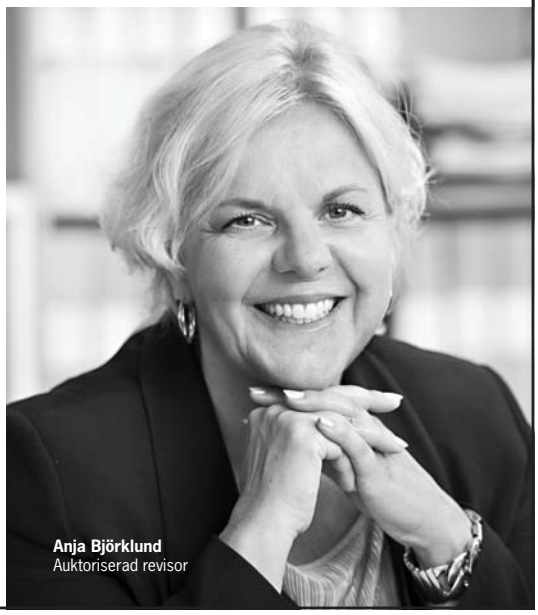

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Preface

This book has two parts. The first part talks about general characteristics of the World Trade Organisation (WTO) as well as common steps that have to be taken during the accession process. Theoretical studies related to the WTO activities are also presented. Finally, Part I of this book discusses one of the most useful methods of examining economic consequences of being WTO member, namely Computable General Equilibrium (CGE) Models. Part II continues analysis and shows application of CGE model to a specific case study. It scrutinises accession of Ukraine to the WTO and discusses possible economic impact of such step. Concluding remarks for the whole book are given at the end of Part II.

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Abstract

This research studies the accession of a transition country to the World Trade Organization on the case of Ukraine. Quantitative results are obtained by building a Computable General Equilibrium model in the mathematical programming language General Algebraic Modelling System (GAMS). Four scenarios are simulated: 1) import tariffs reform; 2) improvement of exports access; 3) improvement of investment climate and 4) the scenario that combines previous three, or a full WTO accession.

The results of the model show that in all scenarios there is growth of both exports and imports. By contrast, output and household consumption levels vary from scenario to scenario. The first two simulations, tariff reform and improvement of export access, show no significant change in domestic production and consumption. Thus, with expanded trade and practically the same output and consumption, Ukraine merely becomes more open and shifts to foreign trade. In the third scenario, improvement of investment climate has the most favourable results. Owning to better allocation of resources, both domestic production and consumption expand and the welfare of households increases by nearly 10% of consumption or 2% of Gross Domestic Product (GDP). The combined scenario shows a somewhat smaller but still significant improvement in welfare: over 8% of consumption or 1.8% of GDP.

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1 Introduction

Ukraine has a very open economy and the role of the foreign trade sector is extremely important. The ratio of exports to GDP in Ukraine is around 60%, much higher than in many other countries. Despite this, Ukraine was one of the last large economies in the world that became a World Trade Organization (WTO) member.

The process of Ukraine's accession to the WTO system started in 1993, when the official application was submitted; later in 1994 a Memorandum on the Foreign Trade Regime of Ukraine was sent to the WTO Secretariat. Since that time until the end of 2007 sixteen Working Party meetings were held. Bilateral negotiations between Ukraine and WTO members started in 1997, fifty one countries had decided to conduct such negotiations; by the end of 2007 all protocols had been signed. In May 2008 Ukraine finally became a member of the WTO.

One possible reason for the slow accession process of Ukraine is the lack of a quantitative assessment of gains and losses from WTO membership. This uncertainty only amplifies fears of domestic producers of increased competition from abroad and the potential decline of their market share. This study aims to contribute to quantifying consequences of WTO membership for Ukraine.

WTO membership has an impact on all sectors of the economy and whilst modelling it, it is very important to capture inter-linkages between various economic agents. One of the most suitable approaches for this purpose is to build a Computable General Equilibrium model. This type of models is quite widely used for quantifying a variety of economic policy changes including international trade and WTO issues in particular and also called Applied General Equilibrium.

The model employed in this study is based on a standard general equilibrium framework, written in General Algebraic Modelling System (GAMS) software; it includes 38 sectors of the Ukrainian economy and 5 trade regions. Four scenarios are simulated in the model: 1) Change of import tariffs according to schedule, agreed with the WTO. 2) Improvement of export access for some industries. Being a WTO member, Ukraine should have instruments to curb antidumping and countervailing investigations, thus it will be able to increase volume of some exports. 3) Improvement of investment climate, which comes from two main sources: First of all, investors face fewer risks and costs of investment, since Ukraine should accept more pro-market regulation. Second, cost of capital should diminish along with lower prices for imports. This scenario is modelled via the recursive dynamics method. 4) Combined effect. This scenario includes decrease of import tariffs, improvement of exports access and improvement of investment climate. Scenarios 2, 3 and 4 include 3 sub-scenarios (least favourable; core and optimistic) with different rates of market access expansion and investment growth.

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The results of the model show that in all scenarios there is growth of both exports and imports. By contrast, output and household consumption levels vary from scenario to scenario. The first two simulations, tariff reform and improvement of export access, show no significant change in domestic production and consumption. Thus, with expanded trade and practically the same output and consumption, Ukraine merely becomes more open and shifts to foreign trade. In the third scenario, improvement of investment climate has the most favourable results. Owning to better allocation of resources, both domestic production and consumption expand and the welfare of households increases by nearly 10% of consumption or 2% of Gross Domestic Product (GDP) in the case of the core scenario. The combined scenario shows a somewhat smaller but still significant improvement in welfare: over 8% of consumption or 1.8% of GDP.

This study contributes to existing research in several ways.

First of all, there is a difference in the approach to modelling.

The model used in this research is written in the mathematical programming language General Algebraic Modelling System as a system of non-linear equations with explicit specification of functions and calibration of parameters. At the same time, most Applied General Equilibrium models are written in a subsystem for GAMS called Mathematical Programming System for General Equilibrium analysis (MPSGE). MPSGE is a library of functions that provides a compact non-algebraic representation of a model's nonlinear equations. There is no need to write model-specific functions and calibrate parameters; the modeller just has to specify the type of function.

Although MPSGE makes modelling easier, it has one significant drawback: this method hides the theoretical background and economic intuition behind the model and turns it into a "black box". Thus, employing MPSGE may be more suitable for not-so-experienced users (such as policy-makers) or for building a model quickly, while explicit modelling of functions allows giving insight into the theory of the model and see its connection with its applied economic side. All CGE models known to the author that scrutinize accession of post-Soviet countries to the WTO (namely, Russia, Ukraine and Kazakhstan) use MPSGE; this model permits the opening of the "black box" of CGE analysis for these countries.

Next, having a quantitative assessment of Ukraine's accession to the WTO is useful for economists as scientists and for policy-makers in a more applied way.

Economist may find this research helpful for studying CGE as a branch of economic modelling. There are wide concerns about the dependence of CGE models on the specification of parameters, choosing functional forms and closure rules. Comparing results of this model with results of other similar models and studying differences in model formulation will lead to the shedding of some light on this problem.

Besides that, this model can be used as a basis for doing further CGE analysis. Scenarios can be changed and data rearranged to reflect other policy decisions either related to the WTO or going beyond this topic.

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This model uses real data for Ukraine and was built with the intention of reflecting the structure of the Ukrainian economy as realistically as possible. So, results of the model have practical importance for those people who deal with economic policy. For instance, policy-makers can use results to see who is gaining and who is loosing from WTO accession and to undertake measures to promote gains and diminish losses.

Another contribution is a thorough review of existing literature on theoretical aspects of WTO related issues. Although there is a large number of empirical studies, theoretical examinations of the WTO are not so numerous and well known. To the best of author's knowledge, there were no previous attempts to combine and review such theoretical papers.

Finally, this research gives comprehensive description of the accession process to the WTO. It portrays not only the experience of some transition countries, but also gives deep insight into accession using the example of one country – Ukraine. Thus, this research can be seen as a case study for those who are interested in the details of accession to the World Trade Organization.

The study is organized as follows:

A theoretical and empirical analysis of international trade agreements and GATT/WTO in particular is done in Chapter 2. This chapter commences with a general overview of history, main principles and agreements of GATT and WTO. Then, the theoretical part starts with explaining the reasons for entering an international trade agreement in general and refers to several theoretical studies of this issue. Next, specific features of GATT/WTO are scrutinized in theoretical light. It includes such GATT/WTO principles as reciprocity, non-discrimination, enforcement, safeguard measures, anti-dumping and countervailing measures and the potential impact of GATT/WTO on foreign direct investment. The chapter continues with an explanation of the accession process to this international organization and the accession experience of transition countries. Finally, the accession path of Ukraine is studied by reviewing the history of Working Party meetings, goods and services commitments.

The methodology of the research is explained in Chapter 3. First, the origins and nature of Computable General Equilibrium models are studied; this is followed by an overview of the classification of Computable General Equilibrium models and their advantages and disadvantages. Computable General Equilibrium models were extensively used for studies of trade policy and GATT/WTO in particular. First, early studies are overviewed, which cover modelling the different aspects of the Uruguay Round and Doha Round. This part is finalized with an examination of the studies devoted to the experience of transition economies such as China and some post-USSR countries.

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Chapter 4 describes the Computable General Equilibrium model, which was built for Ukraine. It starts with a description of the macroeconomic state of affairs in Ukraine and also covers such areas as composition of industrial production, regional and sectoral breakdown of foreign trade and Foreign Direct Investment (FDI). This part will help the reader to understand why the model was built in a certain way and especially the reasoning behind the choice of scenarios. Next, a detailed algebraic formulation of the model is given with behavioural equations of all economic agents as well as equations showing calibration of certain parameters. This part also includes market clearance equations and the method of calculating the welfare of households through equivalent and compensating variation. Social Accounting Matrix, a database for the model, is overviewed next. The meanings of database entries and their sources are given. The main assumptions of the model and closure rules are then described. A depiction of four scenarios for simulation policy changes in the case of Ukraine's accession to the WTO concludes this chapter.

The results of the model are discussed in Chapter 5. Key macroeconomic variables, changes of output and foreign trade at sectoral level as well as changes in direction of foreign trade are presented. The results of four scenarios of policy changes are analyzed one-by-one with the help of graphical illustration. Finally, the robustness of model is checked with the help of sensitivity analyses. This is done by varying key input parameters (elasticities of substitution and transformation) and comparing the resulting output values of households' utility.

The concluding remarks on the results of the model, along with a comparison of those results with results of other models and possible further developments are presented in Chapter 6.

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2 Theory and Practice of GATT/WTO

2.1 Main Features of the WTO

The World Trade Organization (WTO) is an international body which deals with the rules of trade between nations. Established on January 1, 1995, as a result of the Uruguay Round, the WTO replaced the General Agreement on Tariffs and Trade (GATT) as a legal and institutional organization. The GATT was a multilateral agreement which has governed international trade since 1947 till creation of the WTO.

The World Trade Organization follows the core principles of the GATT, which include (WTO, 2005):

- Non-discrimination in trade;
- Free trade;
- Transparency and predictability;
- Assistance and trade concessions to developing countries.

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The WTO addresses several new important issues which were not covered by the GATT:

- The General Agreement on Trade in Services (GATS);
- Trade in Intellectual Property Rights (TRIPs);
- Trade Related Investment Measures (TRIMs);
- Dispute Settlement;
- Trade Policy Review Mechanism.

As of the end of 2007 the WTO included 151 members, and 30 countries had the status of observers and were seeking membership. Its headquarters are situated in Geneva, Switzerland, there are over 600 secretariat staff, and the budget for 2007 was 182 million Swiss francs.

History

The idea of creating an organization to deal with international trade was dictated by desire to overcome the backlashes of the protectionist policy of the 1930s, which is believed to have been a significant cause of the Great Depression, and to boost world economy after World War II. Initially, it was driven forward predominantly by American and British efforts. Such an organization was expected to handle questions of international commerce and join the two "Bretton Woods" institutions: the International Monetary Fund and World Bank.

In 1946 the United Nations Economic and Social Council called for the establishment of an International Trade Organization (ITO) during the UN Conference on Trade and Development in Havana, Cuba, in 1947. The concept of the ITO was very ambitious and included issues of trade in goods, services, regulation of investment and employment. At the same time, 23 participating countries were working on tariff negotiations. In the autumn of 1947, the General Agreement on Tariffs and Trade was signed, containing 45 000 tariff concessions and covering one fifth of world trade. Plans for the ITO were abandoned, mainly because of the refusal of US Congress to ratify the Havana Charter. Thus, the GATT was a treaty without the intended administrative organization and covered only part of its original scope (Suranovic *et al.*, 1998).

The basic legal text of the GATT remained much the same as it was in 1947, but it was extended by plurilateral agreements, special arrangements, interpretations, and voluntary agreements to decrease tariffs. For the most part negotiations were conducted within the framework of so-called "trade rounds" – multilateral talks. Since 1947 there have been eight trade rounds their basic features are listed in Table 2.1.

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Year	Place/Name	Subjects covered	Countries
1947	Geneva	Tariffs	23
1949	Annecy	Tariffs	13
1951	Torquay	Tariffs	38
1956	Geneva	Tariffs	26
1960–1961	Geneva (Dillon Round)	Tariffs	26
1964–1967	Geneva (Kennedy Round)	Tariffs and anti-dumping measures	62
1973–1979	Geneva (Tokyo Round)	Tariffs, non-tariff measures, framework agreements	102
1986–1994	Geneva (Uruguay Round)	Tariffs, non-tariff measures, rules, services, intellectual property, dispute settlement, textiles, agriculture, creation of the WTO, etc	123
2001–	Doha	Launching of a new round of trade talks	

Table 2.1 Trade Rounds of GATT/WTO
Source: WTO Secretariat

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Until the Kennedy Round in 1964–1967, the discussion was mostly around a further decrease of import tariffs in the form of bilateral negotiations. The Kennedy Round brought up approximately 50 per cent decrease of tariffs by major industrialized countries, inclusion of new industries in liberalization and a new GATT Anti-Dumping Agreement.

In addition to a significant reduction of tariffs, the Tokyo Round produced new important agreements, including those on Subsidies and Countervailing Measures, Technical Barriers to Trade, Import Licensing Procedures, Custom Valuation, Government Procurement, Bovine Meat Arrangement and Trade in Civil Aircraft.

The Uruguay Round was announced in September 1986 and lasted more than seven years. It was by far the most ambitious trade round and included virtually every aspect of trade policy. Traditionally, the GATT had dealt with trade in goods, but in the Uruguay Round it was proposed that it should extend to new areas, such as trade in services and intellectual property rights.

By 1998 negotiations had reached the stage of the "Mid-Term-Review" at the Ministerial Meeting in Montreal, Canada. Ministers had assessed a progress of trade talks and agreed on several issues, including market access for tropical products, a Dispute Settlement Body and Trade Policy Review Mechanism. During the next Ministerial Meeting in Brussels in 1990, disagreements on how to proceed with agriculture reform (especially between the USA and European Community) led to a decision to extend the Round. During the following two years, participants in the talks deepened the discussion of demanding topics, including creation of a new organization. In 1992, the USA and European Community settled their disagreements over agricultural policy.

It took until the end of 1993 to resolve remaining issues and conclude negotiations on market access for goods and services. On April 15, 1994, most of the ministers from the 123 participating countries signed the draft charter of the WTO. On January 1, 1995, the WTO came into being. Whereas the GATT was a provisional multilateral agreement, covering trade in goods only, the WTO became a formal international organization and, besides GATT, included much broader issues, such as trade in services, intellectual property, Dispute Settlement, and a Trade Policy Review Mechanism.

The WTO keeps advancing trade negotiations. The most significant agenda so far was launched at the Fourth Ministerial Conference in Doha, Qatar, in November 2001. It concerns a wide range of issues, especially those of importance for developing countries, and is called the Doha Development Agenda (DDA).

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Principles

The WTO has several important principles, lying at the heart of a free trading system: non-discrimination in trade, free trade, transparency and predictability, assistance and trade concessions for developing countries.

Non-discrimination in trade takes the form of two principles: the Most Favoured Nation and the National Treatment

Most Favoured Nation principle outlaws discrimination between goods, imported from different trade partners. According to it, "any advantage, favour, privilege or immunity granted by any contracting party to any product originating in or destined for any other country shall be accorded immediately and unconditionally to the like product originating in or destined for the territories of all other contracting parties"[1]. Thus, if a country grants someone special treatment, for instance lower import tariffs, it must do the same for all other members. Besides stating the MFN principle in Article I of GATT, it is also written in Article II of GATS and Article IV of TRIPS, but with some differences.

National Treatment requires that once goods have entered the market, they must be treated no worse than domestically produced goods. Like the MFN principle, National Treatment applies to goods, services and intellectual property.

Free trade. WTO regards the liberalization of trade and reduction of tariffs and other trade barriers as important conditions for promoting a sustainable development. Countries who wish to participate in the WTO framework should make a commitment, directed at providing greater market access to other members.

Transparency and predictability. The transparency principle obliges countries to inform the WTO and its members about policies and regulations within respective countries, especially about those concerning trade. Predictability implies that members should commit not to raise tariffs above the binding level, unless they are ready to compensate for such an increase.

Assistance and trade concessions to developing countries. Developing countries comprise two thirds of all WTO members and usually assume the same obligations as developed economies. Nevertheless, WTO regulations foresee more flexibility for developing countries, called Special and Differential (S&D) treatment provisions. S&D includes more time for transition, concessions from developed countries, and technical assistance.

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Functions and organization

As stated in Article III of Marrakesh Agreement, which established the WTO, the main functions of the World Trade Organization are the following (GATT (1), 1994):

1. The WTO shall facilitate the implementation, administration and operation, and further the objectives of the WTO agreements.
2. The WTO shall provide the forum for negotiations among its Members concerning their multilateral trade relations.
3. The WTO shall administer the Understanding on Rules and Procedures Governing the Settlement of Disputes.
4. The WTO shall administer the Trade Policy Review Mechanism.
5. With a view to achieving greater coherence in global economic policy-making, the WTO shall cooperate, as appropriate, with the International Monetary Fund and with the International Bank for Reconstruction and Development and its affiliated agencies.

Decisions in the WTO are taken by member governments, either by ministers or by their delegates. The WTO agreements are usually reached by consensus, but in some cases voting is allowed as well.

The highest authority of the WTO is the Ministerial Conference, which takes place at least once every two years and can reach decisions on all matters. At the second level, day-to-day work is done by the General Council, which can meet as the General Council itself as the Dispute Settlement Body and as the Trade Policy Review Body. At the third level, three more councils report to the General Council: the Council for Trade in Goods, the Council for Trade in Services and the Council for Trade-Related Aspects of Intellectual Property Rights. Besides that, there are various committees, working parties, working groups, who report either to the General Council or to the Councils for Trade in Goods, Services or TRIPS.

Agreements

The legal texts of the WTO are a compound of more then 60 agreements, annexes, decisions and understandings. The majority of these are the result of the Uruguay Round of multilateral trade negotiations. Agreements can be classified into six categories: an umbrella agreement, establishing the WTO; agreements for trade in goods, services and intellectual property rights; dispute settlement; reviews of trade policies (see Table 2.2). Agreements on goods and services include basic principles, additional agreements and market access commitments made by individual countries.

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Umbrella	**Agreement Establishing WTO**		
	Goods	Services	Intellectual Property
Basic principles	**GATT**	**GATS**	**TRIPS**
Additional agreements	• Agriculture • Application of Sanitary and Phytosanitary Measures • Textiles and clothing • Technical Barriers to Trade • Trade-Related Investment Measures • Anti-dumping measures • Customs valuation methods • Preshipment inspection • Rules of Origin • Import Licensing Procedures • Subsidies and Countervailing Measures • Safeguards	• Annex on Movement of Natural Persons Supplying Services • Annex on Air Transport services • Annexes on Financial Services • Annex on Negotiations on Maritime Transport Services • Annex on Negotiations on Basic Telecommunications	
Market access commitments	Countries' schedules of commitments	Countries' schedules of commitments; MFN exemptions	
Dispute settlement	**Dispute Settlement**		
Transparency	**Trade Policy Review**		

Table 2.2 Agreements of the WTO
Source: WTO and Bacchetta, 2003

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A brief description of these agreements is as follows:

The General Agreement on Tariffs and Trade (GATT).

The Uruguay Round resulted in new commitments to cut and bind tariffs in the framework of the GATT. Thus, developed countries increased the number of imports with "bound" tariffs to 99%, and countries in transition to 98% (WTO, 2005).

The Agriculture Agreement envisages changes in rules concerning market access, domestic support and export subsidies. Market access rules require transition from quotas to tariffs only. Domestic support to agriculture is divided into three categories. "Green box": measures which can be freely used (for instance research, infrastructure development). "Blue box": support on a small scale: no more than 5% of total agriculture production for developed countries and 10% for developing (measures to limit production, rural development in developing countries). "Amber box": direct support of production and exports; these measures have to be cut. Export subsidies are prohibited, unless the subsidies are specified in a member's list of commitments.

The Sanitary and Phytosanitary Measures (SPS) Agreement sets out the basic rules for food, animal and plant safety and encourages countries to apply international standards.

The Agreement on Textiles and Clothing (ATC) gradually takes textiles to the general regulations of GATT by removing quotas.

The Antidumping Agreement and the Subsidies and Countervailing Measures Agreement give the legal definition of dumping and subsidies, and allow countries to take actions against them.

The Safeguards Agreement foresees cases when domestic industry is injured or threatened with injury caused by a surge of imports, and allows restriction of such imports for a certain period.

The General Agreement on Trade in Services (GATS).

The importance of services in international trade has grown enormously and accounts for one fifth of total international trade. The GATS is the first and only agreement regulating international trade in services. GATS functions according to the same principles as trade in goods: MFN treatment, national treatment and commitments on market access. The GATS annexes cover trade in four types of services: movement of natural persons, financial services, telecommunications and air transport services.

Trade in Intellectual Property Rights (TRIPS).

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TRIPS cover five issues: 1) how to apply the basic principles of free trade to TRIPS; 2) how to protect intellectual property rights (copyrights, trademarks, geographical indicators, industrial designs, and patents); 3) how to enforce this protection; 4) how to settle disputes and 5) special transitional arrangements to adjust to TRIPS rules.

Dispute Settlement.

The Dispute Settlement Understanding (DSU) includes rules and procedures that allow the handling of trade disputes between countries. It is managed by the Dispute Settlement Body (DSB) consisting of all WTO members. DSU sets clear time frames for the dispute settlement process and establishes an appeal system. Dispute settlement includes a consultation phase, setting up the panel, delivering several reports on the case and possibly an appeal. The maximum time to view a dispute is equal to one year or one year and three months, in case of appeal.

Over 47 years of the GATT, only 200 cases have been disputed, while during 1995-2006 more than 350 cases were considered. The increased number of disputes is believed to be attributed to an expansion of the world trade and a growing faith in the WTO system (WTO, 2005). The majority of cases did not reach the full panel process, but were settled "out of court". Agriculture was the most frequent industry to evoke a dispute, followed by textiles, alcoholic beverages, and chemical industries. The majority of cases were brought by developed countries against other developed countries; the next group is developed countries against developing countries (Horn *et al*., 2006).

Trade Policy Review Mechanism.

This mechanism is designed to increase the transparency of countries' trade policy by regularly monitoring them. This is achieved in two ways: governments have to inform the WTO about its trade policies and regulations; and the WTO conducts regular trade policy reviews of individual countries.

2.2 Theory of Trade Agreements and GATT/WTO

Reasons for entering international trade agreements

This section will deal with the theoretical grounds of international trade agreements and GATT/WTO in particular. First, the motives for setting import tariffs will be considered. Second, the inefficiency of the unilateral trade policy will be discussed as well as how this inefficiency can be eliminated through trade agreement in its general form. Next, the debate will move specifically to GATT/WTO and how its core virtues can improve efficiency. The theoretical justification of such mechanisms as reciprocal tariff negotiations, Most Favoured Nations principle, enforcement through Dispute Settlement Procedure and safeguard, as well as antidumping and countervailing measures, will be reviewed.

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Although economic theory suggests that free trade maximizes welfare, countries do set import tariffs, being ruled by several reasons. One of them, widely discussed by trade economists, is a terms of trade argument. It states that large countries which can influence world prices can gain by setting an import tariff, thus lowering the price of imports. Although such policy also distorts production and consumption, benefits can outscore losses if an optimal import tariff is introduced. This theory was first analyzed by Torrens (1833) and Mill (1844) and developed further by Edgeworth (1894), Bickerdike (1907), Johnson (1953–1954). The concept is important for further analysis and will be discussed later in this chapter.

Another set of arguments was formalized by Richard Lipsey and Kelvin Lancaster in 1957, and received the name "theory of the second best". It shows what will happen if optimal conditions are not satisfied in an economic model. If a domestic economy has some market failures, the government may need to intervene. In the particular case of international trade, this means deviation from free trade.

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The influence of special interests groups on politics is yet another explanation for setting tariffs. As suggested by Mayer (1984) "political decisions on tariff rates are reflections of the selfish economic interests of voters, lobbying groups, politicians, or other decision makers in trade policy matters". Magee (1989), Hillman and Ursprung (1988) model the process of tariff formation as a political competition among parties. Competing parties propose their tariffs and interests groups choose which party to support. Stigler (1971), Grossman and Helpman (1984) argue that parties set their policies in order to maximize their political support from different lobbies. Downs (1957), Mayer (1981) and others assume that parties try to meet the preferences of voters. They presume that different levels of tariffs favour different types of voters, depending on their occupation. Thus, political parties will set tariffs which will satisfy a median voter.

The terms of trade arguments for imposing tariffs are considered below for the cases of small and large economies.

Relatively easy and unambiguous is the case of a small open country. Imposition of import tariffs does not affect terms of trade, since the country is a price taker. Without tariffs, a country is able to trade more and improve its welfare. Thus, there is no advantage in setting an import tariffs. The intuition behind the effect of import tariffs is illustrated in Figure 2.1. There are two goods that are produced and consumed in every country: *X* and *Y*. The production possibility frontier is $X'Y'$. P_W are relative world prices and P_T are relative domestic prices, including tariffs. In the absence of tariffs production occurs at point *A* at the intersection of world prices and production possibility frontier. Consumption is at point *C*, where the consumers' indifference curve is tangent to the world prices. Good *X* is imported and good *Y* is exported, resulting in foreign trade represented by triangle *AEC*. If an import tariff is imposed on good *X*, consumers and producers face relative prices P_T. Production is moved to point *B*, consumption to *D* and foreign trade diminishes to *BFD*, resulting in a lower welfare level.

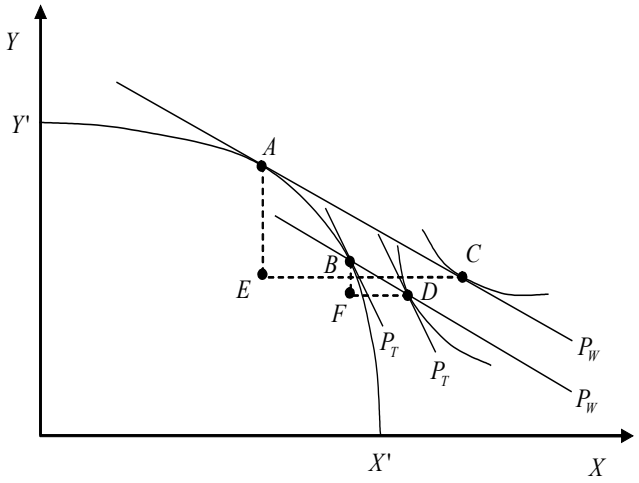

Figure 2.1 Impact of an Import Tariff, Small Country
Source: Whalley (1985)

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Analysis becomes more complicated if a country has influence on world prices – large country assumption. The theoretical backgrounds in this area were founded in the first half of the nineteenth century. Torrens (1833) and Mill (1844) argued that although countries will loose from diminished trade if import tariffs are imposed, they can also win if foreign countries lower prices in an attempt to secure market presence. Edgeworth (1894) and Bickerdike (1907) developed this theory further at the edge of the twentieth century. Edgeworth (1894) used offer curves for his analysis, and argued that if the offer curve of foreign country is not perfectly elastic, the domestic country can improve its welfare. Bickerdike (1907) developed a formula, relating an optimal tariff that maximizes welfare with export supply elasticity. The concept, stating that it is possible to conduct trade on more favourable terms by introducing an optimal tariff – the level of protection that maximizes domestic welfare taking into account the foreign offer curve – has acquired the name "optimal tariff theory".

The offer curves diagram, developed by Edgeworth, is a useful tool to demonstrate the logic of optimal tariff theory and is widely used in trade agreements analysis. There are two countries and two goods. In Figure 2.2 (adopted from Whalley, 1985) *X* are home country exports (foreign country imports) and *Y* are home country imports (foreign country exports). Offer curves are determined by tangencies between relative price lines and trade indifference curves (a combination of imports and exports between which consumers are indifferent). In the absence of a tariff, the initial relative price line is denoted as P_{NT}^{W}; offer curves of home and foreign countries are OC_{NT}^{H} and O^{F} respectively[2]. Trade initially occurs at point *A*, where relative world prices and offer curves of both countries intersect. The graph also shows the initial trade indifference curve of the home country IC_{NT}^{H}.

The introduction of a tariff will change relative world prices and price line, and the home country offer curve will rotate leftward to P_{WT}^{W} and OC_{WT}^{H} respectively. Now trade will take place at point *B* and a higher domestic indifference curve IC_{WT}^{H} will be achieved.

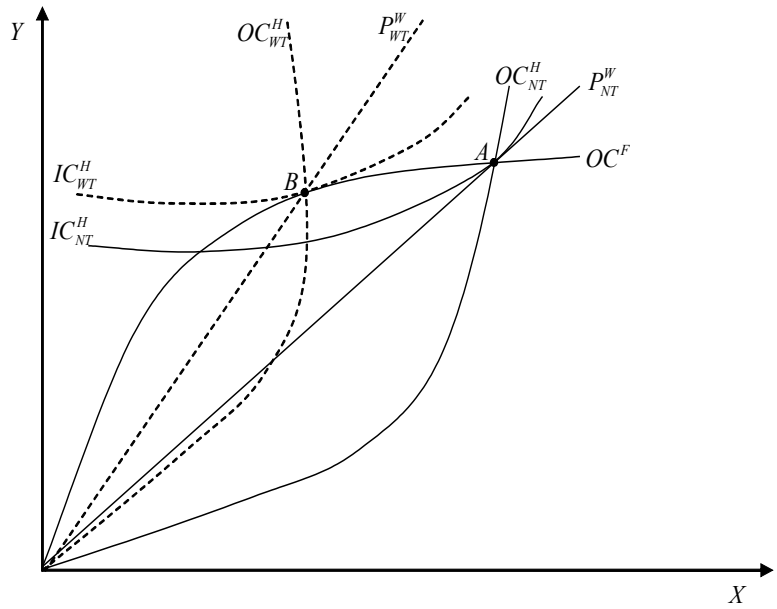

Figure 2.2 Impact of an Import Tariff, Large Country
Source: Whalley (1985)

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The analysis above assumed that the foreign country will not retaliate in response to the introduction of a tariff. Kaldor (1940) brought into discussion the possibility of retaliation from the exploited country. He argued that a country which can change terms of trade is acting like a monopoly, and the magnitude of possible change depends on the monopoly power of such a country, i.e. the elasticity of foreign demand. As he puts it: "Provided that the elasticity of foreign demand is less than infinite there is always some rate of duty which it is advantageous to introduce in the absence of retaliation; and if the elasticity of the country's own demand for foreign products is markedly higher than the elasticity of foreign demand for its own products – an unusual case – this policy may be advantageous even if the "optimum degree of retaliation" of foreign countries is allowed for."

Johnson (1953–1954) in his now classical work "Optimum Tariffs and Retaliation" significantly developed the optimal tariff theory scrutinizing a two-good two-country general equilibrium model. He criticized Kaldor's study for being "imprecise and almost meaningless" and proposed relating the optimal tariff to the elasticity of the foreign offer curve. The author shows that optimal home country tariff t^* should be set at the level $t^* = \sigma^f - 1$, where σ^f is the elasticity of the foreign offer curve. As was argued by Whalley (1985), since trade elasticities tend to be low, a high optimal tariff is implied.

More recent examinations of trade agreements going in line with the optimal tariff argument include those of Mayer (1981), Dixit (1987), Staiger(1994), Grossman and Helpman (2002). Etheir (2006) criticizes such studies for their incompleteness. According to him, trade agreements do not prevent countries from influencing terms of trade; phenomena, which he denotes as the Terms-of-Trade Puzzle. Although countries have bound import tariffs, they have not bound export taxes and still have some market power. The model he uses is two countries, two factors and three traded goods and includes political economy, which allows lobbies to support the trade policy they prefer. Ethier concludes that trade agreements do not prevent countries from changing their terms of trade on the export side and should also address export taxes.

Thus, if the optimal tariff theory holds true, certain countries can get better-off by imposing import tariffs and changing terms of trade. However, to realize their trade policy, countries have to interrelate between each other. The next section will examine the interactions between different countries and unilateral versus multilateral trade policy.

In the case of both countries imposing tariffs, equilibrium is set at point *C*, shown in Figure 2.3. If countries decide to move to free trade, new equilibrium is reached at point *A* with higher indifference curves IC^H_{NT} for the home country and IC^F_{NT} for the foreign one. If one country decides to abolish the tariffs, then, as was shown above, another country has incentives to keep the tariff effective and improve its terms of trade. In this case equilibrium is reached at point *D*, where the home country is worse off and the foreign country is better off. Likewise, if the foreign country cancels the tariffs, the home country will keep them, and at equilibrium point *B* the foreign country will be worse off and the home country better off.

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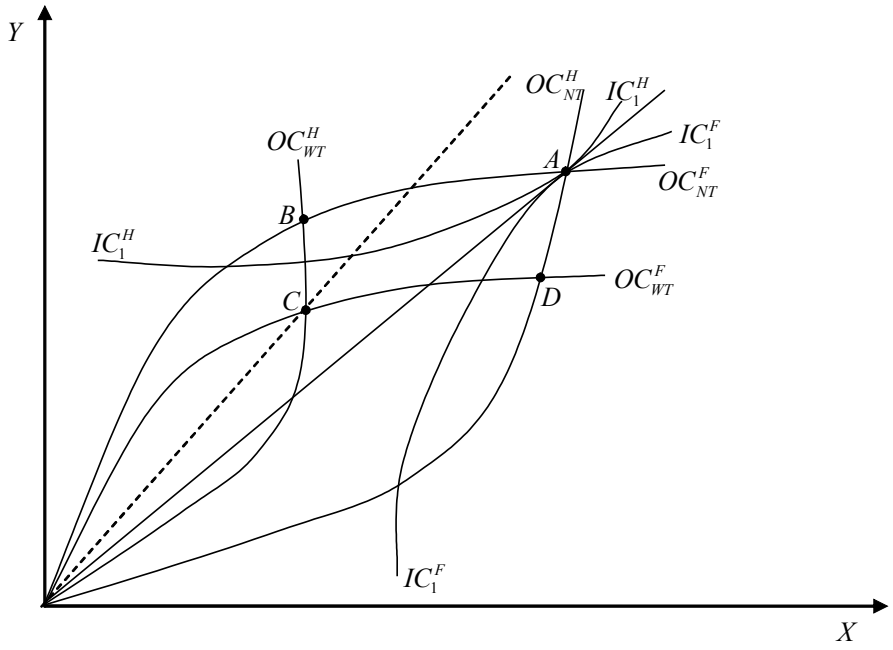

Figure 2.3 Unilateral Versus Multilateral Trade Policy
Source: Whalley (1985)

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Thus, countries are trapped in a "Prisoners Dilemma", illustrated in Table 2.3. Both countries would be better off by choosing free trade (shown by payoffs 10 and 10). But knowing that unilateral abolishment of import tariffs will damage the home country (payoff -10) and make the foreign country better off (payoff 20), both countries move to protection, which brings losses to everyone (payoffs -5 and -5).

Country 1 / Country 2	Free Trade	Protection
Free Trade	(10; 10)	(-10; 20)
Protection	(20; -10)	(-5; -5)

Table 2.3 Prisoners Dilemma of Unilateral Trade Policy
Source: Bacchetta (2003)

As was argued in many studies, and discussed below, if unilateral trade policy does not allow the establishment of free trade while protection policy is not optimal, trade agreements between countries can foster free trade and make the participants better off. Before proceeding with a discussion, a definition of "trade agreement" is necessary. Staiger (1994) defines an "international trade agreement as a collection of rules regarding the conduct of trade policy to which compliance requires some form of enforcement mechanism, that is, where unilateral incentives to violate the rules of the agreement are kept in check by the desire to avoid punishments that are themselves specified in the agreement".

Bagwell and Staiger in a number of studies (Bagwell and Staiger (1990), (1996), (1999), (2003)) developed a theoretical framework for the investigation of international trade agreements, specifically in the context of the GATT/WTO framework. A review of the trade agreement theory will be concentrated around their work.

To illuminate the inefficiency of a unilateral trade policy and possible remedies given by a trade agreement, Bagwell and Staiger (2003) developed a standard general equilibrium model with two countries and two sectors. Home and foreign countries (the latter is denoted with an asterisk) trade by goods *x* and *y*. Goods are normal and there is a perfect competition. Imports of home (foreign) country are respectively *x* (*y*); then $p \equiv p_x / p_y$ ($p^* \equiv p_x^* / p_y^*$) are local relative prices, faced by home (foreign) producers and consumers. The home (foreign) add valorem import tariff is defined as t(t^*). Letting $\tau \equiv (1+t)$ and $\tau^* \equiv (1+t^*)$, the relation between prices becomes: $p = \tau \cdot p^w \equiv p(\tau, p^w)$ and $p^* = p^w / \tau^* \equiv p^*(\tau, p^w)$, where $p^w \equiv p_x^* / p_y$ is the "world" relative price. Terms of trade for the home (foreign) country are given by p^w $(1/p^w)$.

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Production is determined at a point on the production possibilities frontier where the marginal rate of transformation between x and y is equal to the local relative price. Domestic and foreign production functions are determined as $Q_i = Q_i(p)$ and $Q_i^* = Q_i^*(p^*)$ for $i = \{x, y\}$. Consumption is also a function of local relative prices as well as of tariff revenue $R(R^*)$, which is distributed to domestic (foreign) consumers. Thus, domestic and foreign consumption is $D_i = D_i(p, R)$ and $D_i^* = D_i^*(p^*, R^*)$ for $i = \{x, y\}$ respectively. Tariff revenue can be expressed as the amount of imports times difference between domestic and world prices: $R = [D_x(p,R) - Q_x(p)] \cdot [p - p^w]$ for home country and $R^* = [D_y^*(p^*, R^*) - Q_y^*(p^*)] \cdot [1/p^* - 1/p^w]$ for foreign country, alternately $R = R(p, p^w)$ and $R^* = R^*(p^*, p^w)$. Now, consumption in each country can be written as $C_i(p, p^w) \equiv D_i(p, R(p, p^w))$ and $C_i^*(p^*, p^w) \equiv D_i^*(p^*, R^*(p^*, p^w))$ for $i = \{x, y\}$.

Imports of home country are represented as $M_x(p, p^w) \equiv C_x(p, p^w) - Q_x(p)$, and exports as $E_y(p, p^w) \equiv Q_y(p) - C_y(p, p^w)$. For foreign countries these trade flows are denoted as $M_y^*(p^*, p^w)$ and $E_x^*(p^*, p^w)$.

Home and foreign country budget constraints require balanced trade and correspond to the following two equations:

$$p^w \cdot M_x(p, p^w) = E_y(p, p^w) \tag{2.1}$$

$$M_y^*(p^*, p^w) = p^w \cdot E_x^*(p^*, p^w) \tag{2.2}$$

The local price depends upon the tariff and world price; the equilibrium world price $\tilde{p}^w(\tau, \tau^*)$ is determined by the market-clearing condition for good y:

$$E_y(p(\tau, \tilde{p}^w), \tilde{p}^w) = M_y^*(p^*(\tau^*, \tilde{p}^w), \tilde{p}^w) \tag{2.3}$$

To sum up, the tariffs and market equilibrium condition (2.3) determine the world price. Next, the equilibrium world price and tariffs determine local prices. Finally, world and local prices determine production, consumption, trade volumes and tariff revenues.

There are two major approaches to represent the government welfare function. The traditional one states that the government maximizes national income and, thus, welfare is improved when terms of trade are improved. This approach was formalized by Edgeworth (1894), Bickerdike (1907), Johnson (1953–1954), Dixit (1987), Mayer (1981). A political-economy approach takes into account distribution of welfare and was analyzed by Feenstra and Bhagwatti (1982) and Mayer (1984). The last formulated a model in which the government defends the interests of a medium voter.

In their work, Bagwell and Staiger (2003) encompass both traditional and political economy methods. In order to do so, they do not represent payoffs directly in terms of tariffs, but rather in terms of local and world prices, induced by tariffs. Thus, the welfare functions of home and foreign government are $W(p, \tilde{p}^w)$ and $W^*(p^*, \tilde{p}^w)$.

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Bagwell and Staiger (2003) do not impose restrictions on government preferences over local prices in order to allow different sets of political motivation. Indeed, an important assumption they make is that the government will increase welfare if terms of trade improve:

$$\partial W\left(p,\tilde{p}^{w}\right)/\partial\tilde{p}^{w}<0 \text{ and } \partial W^{*}\left(p^{*},\tilde{p}^{w}\right)/\partial\tilde{p}^{w}>0 \tag{2.4}$$

This point can be demonstrated using Figure 2.4.

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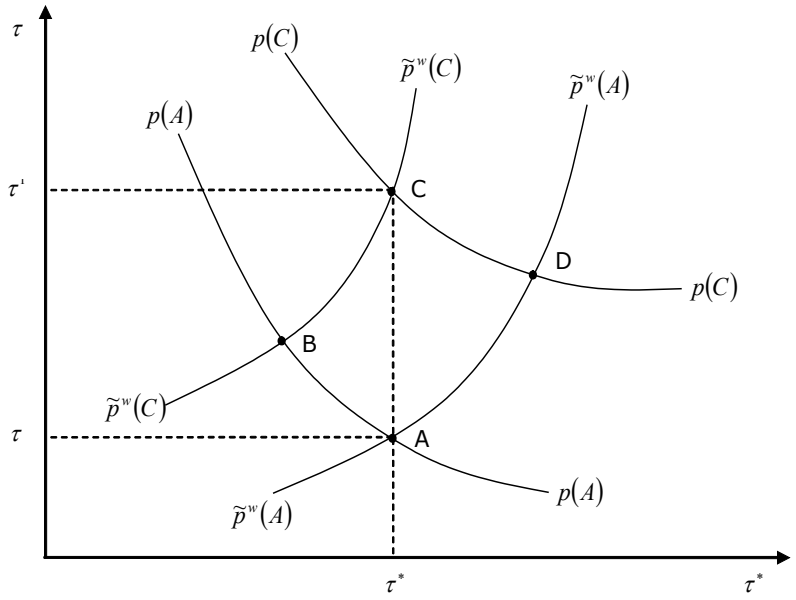

Figure 2.4 The World and Local Price Effect of a Tariff Change
Source: Bagwell and Staiger (2003)

Initial tariff pair is represented as point $A \equiv (\tau, \tau^*)$, which is formed at the intersection of the domestic iso-local-price locus $p(A) \rightarrow p(A)$ and an iso-world-price locus $\tilde{p}^w(A) \rightarrow \tilde{p}^w(A)$. Following an increase in domestic tariff, a new point $C \equiv (\tau^1, \tau^*)$ is achieved. This point is associated with a second pair of prices, corresponding to domestic iso-local-price locus $p(C) \rightarrow p(C)$ and an iso-world-price locus $\tilde{p}^w(C) \rightarrow \tilde{p}^w(C)$. At point *C* the world price is lower than at point *A*, reflecting improved market access for the home country.

Next, Bagwell and Staiger (2003) determine the unilateral trade policies of governments and show what kind of problem arises in the absence of a trade agreement. Each government sets its tariff policy in order to maximize its welfare, and taking the tariff policy of trade partners as given. Thus, reaction functions are implicitly defined as:

$$W_p[dp/d\tau] + W_{\tilde{p}^w}[\partial \tilde{p}^w / \partial \tau] = 0 \tag{2.5}$$

$$W^*_{p^*}[dp^*/d\tau^*] + W^*_{\tilde{p}^*}[\partial \tilde{p}^w / \partial \tau^*] = 0 \tag{2.6}$$

Let $\lambda \equiv [\partial \tilde{p}^w / \partial \tau] / [dp/d\tau] < 0$ and $\lambda^* \equiv [\partial \tilde{p}^w / \partial \tau^*] / [dp^*/d\tau^*] < 0$. Than, (2.5) and (2.6) can be rewritten as

$$W_p + \lambda W_{\tilde{p}^w} = 0 \tag{2.7}$$

$$W^*_{p^*} + \lambda^* W^*_{\tilde{p}^*} = 0 \tag{2.8}$$

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As can be seen, the best-response tariff of each government includes induced local and world price movements. Figure 2.4 gives further insight. Suppose the home government unilaterally increases the tariff, moving from point $A \equiv (\tau, \tau^*)$ to $C \equiv (\tau^1, \tau^*)$. The new tariff pair τ^1 and τ^* results in higher local and lower world prices, compared with point *A*. This move can be broken into two stages: movement from *A* to *B* shows the effect of change in the world price and the corresponding change in welfare is represented in (2.7) by $\lambda W_{\tilde{p}^w}$. Movement from *B* to *C* holds the world price fixed and isolates change in local price; welfare is given by term W_p.

The authors argue that change from *B* to *C* is domestic in nature and reflects the balance between the cost of economic distortions in production and consumption and benefit of political support. The change from *A* to *B* has indeed international character: it captures the improvement of domestic terms of trade and the corresponding deterioration of foreign terms of trade, thus shifting costs of trade policy to the foreign government. In a Nash equilibrium, both governments are on their reaction curves and the Nash equilibrium pair of tariffs (τ^N, τ^{*N}) satisfies (2.7) and (2.8).

Next, the authors make several observations; formal proof is given in their previous work on the theory of GATT (Bagwell and Staiger (1999)).

1. The Nash equilibrium is inefficient. If a government sets its trade policy unilaterally, it has incentives to shift the costs of such a policy to a foreign government. This results in too high tariffs and too low trade.
2. Both governments can achieve efficiency improvements relative to the Nash equilibrium only if they both agree to lower tariffs below the Nash equilibrium level. Otherwise they get stuck in the Prisoners Dilemma.
3. If governments do not try to shift costs to foreign partners and rather consider domestic costs and benefits, the resulting politically optimal tariffs are efficient.

These observations are illustrated in Figure 2.5. First, non-cooperative governments set their tariffs at point *N*. As was originally shown by Johnson (1953–1954), this is a non-cooperative Nash equilibrium of a tariff retaliation and counter-retaliation game. This point is inefficient, since the home and foreign iso-welfare contours are not tangent. As Johnson (1953–1954) argues, neither country could improve its welfare with a unilateral process, but both countries can be better off if they pursue a mutual tariff reduction.

Mayer (1981) points out that efficient tariffs would have to satisfy condition $\tau = 1/\tau^*$. Such tariffs make local prices across countries equal and achieve world-wide economic efficiency. Besides free trade between the countries ($\tau = \tau^* = 1$), there is an entire set of efficient tariff pairs, which lies on the efficiency locus (curve $E \to E$). The portion of this locus, denoted $e \to e$, is a contract curve: a combination of tariffs that are efficient and bring welfare, greater than Nash welfare. Second, the Nash iso-welfare curves imply that greater than Nash equilibrium welfare can be achieved only if both governments can agree on a reduction of tariffs. Finally, politically optimal tariffs are at point *PO*, which lies on the efficiency locus.

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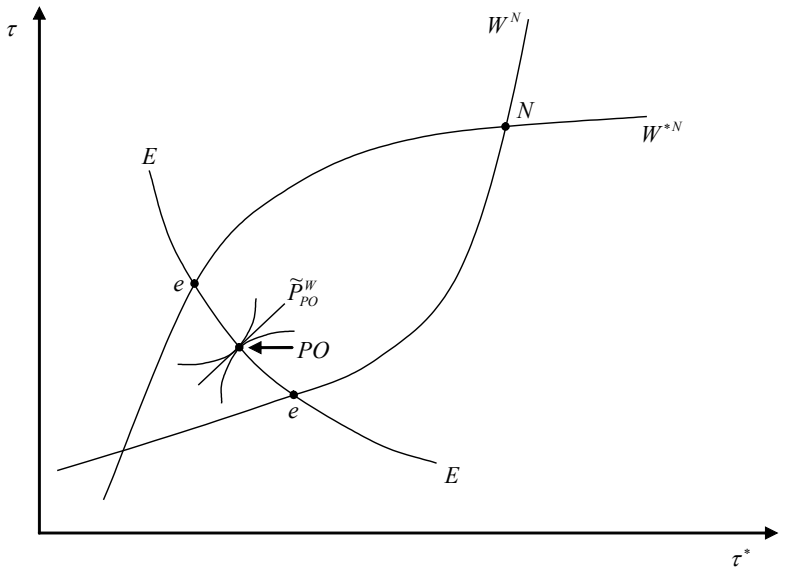

Figure 2.5 The Purpose of Trade Agreement
Source: Bagwell and Staiger (2003)

Next, a discussion of how such an international trade agreement as GATT/WTO can eliminate the inefficiency of a unilateral trade policy follows. The review will start from the main pillars of GATT/WTO, namely reciprocity of negotiations and non-discrimination; next, it will move to enforcement, safeguard mechanisms, and antidumping and countervailing measures.

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Reciprocity

Using the model discussed above and developing their previous work (Bagwell and Staiger (1999)), Bagwell and Staiger (2003) argue that trade agreement, in particular in context of GATT/WTO framework can give remedy to inefficiency of unilateral trade policy through mechanism of reciprocity. According to the Preamble of GATT, "reciprocal and mutually advantage arrangements directed to the substantial reduction in tariffs and other barriers to trade" should serve the main goals of GATT/WTO. This rule is confirmed in practice, as governments try to achieve a balance of concessions during negotiations.

First, concept of reciprocity is formalized. Let's suppose that initial tariffs $\left(\tau^0, \tau^{*0}\right)$ are changed to a newly negotiated pair $\left(\tau^1, \tau^{*1}\right)$. Initial world and domestic prices are denoted as $\widetilde{p}^{w0} \equiv \widetilde{p}^{w}\left(\tau^0, \tau^{*0}\right)$ and $p^0 \equiv p\left(\tau^0, \widetilde{p}^{w0}\right)$; succeeding prices are $\widetilde{p}^{w1} \equiv \widetilde{p}^{w}\left(\tau^1, \tau^{*1}\right)$ and $p^1 \equiv p\left(\tau^1, \widetilde{p}^{w1}\right)$. Principle of reciprocity holds if tariff changes allow following:

$$\widetilde{p}^{w0}\left[M_x\left(p^1, \widetilde{p}^{w1}\right) - M_x\left(p^0, \widetilde{p}^{w0}\right)\right] = \left[E_y\left(p^1, \widetilde{p}^{w1}\right) - E_y\left(p^0, \widetilde{p}^{w0}\right)\right] \tag{2.9}$$

Next, using trade balance condition (3.1) authors characterize reciprocity. Given balanced trade at initial tariffs, equation $\widetilde{p}^{w0} M_x\left(p^0, \widetilde{p}^{w0}\right) = E_y\left(p^0, \widetilde{p}^{w0}\right)$ should be true; thus, (2.9) may be rewritten as

$$\widetilde{p}^{w0} M_x\left(p^1, \widetilde{p}^{w1}\right) = E_y\left(p^1, \widetilde{p}^{w1}\right)$$

Consequently, balanced trade implies $\widetilde{p}^{w1} M_x\left(p^1, \widetilde{p}^{w1}\right) = E_y\left(p^1, \widetilde{p}^{w1}\right)$. Taking this into account, (2.9) may be further rewritten as

$$\left[\widetilde{p}^{w1} - \widetilde{p}^{w0}\right] M_x\left(p^1, \widetilde{p}^{w1}\right) = 0 \tag{2.10}$$

This equation states that mutual changes in trade policy obey the rule of reciprocity if and only if world prices are unchanged. As was stated previously, governments can increase welfare by changing tariffs and passing costs to foreign state. This policy is inefficient and requires change of world price. Next, authors show how obeying reciprocity principle can increase mutual welfare without changing world price. At the Nash equilibrium point from equations (2.4), (2.7) and (2.8) follows that $W_p < 0 < W^*_{p^*}$. If governments decide to reduce tariffs in reciprocal way, than local price *p* would fall and foreign price *p** would rise; thus, domestic welfare would rise (since $W_p < 0$) together with foreign welfare (since $W^*_{p^*} > 0$). In other words, at the Nash equilibrium governments would like to increase trade if it does not require loss of terms of trade. Unilateral policy does not allow for this, so neither government would lower tariffs. But if tariffs are decreased reciprocally and decrease of tariffs in one country is balanced by decrease in other, terms of trade remain constant. Each government can increase welfare by expanding trade without terms of trade loss.

Figure 2.6 illustrates the central idea of Bagwell and Staiger (2003) arguments.

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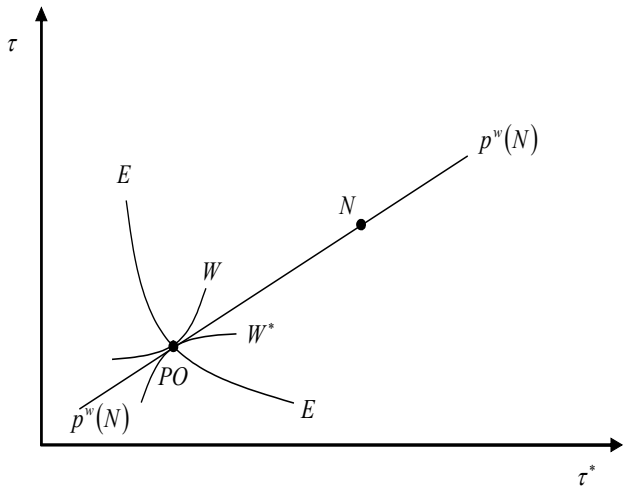

Figure 2.6 Reciprocal Trade Negotiations
Source: Bagwell and Staiger (2003)

The iso-world-price locus runs through the Nash point *N* as well as politically optimal point *PO*. If governments start trade negotiations, which result in reciprocal tariff decrease, they can move down the iso-world-price locus and experience welfare gains. Reaching politically optimum, they have no incentives for further negotiations.

Non-discrimination

The other pillar of GATT/WTO is the rule of non-discrimination, which takes the form of the Most Favoured Nation principle.

Bagwell and Staiger (1999) use a model similar to the one described above for reciprocity, but in multi-country settings. They show that politically optimal tariffs will be efficient if and only if they conform to the principle of non-discrimination. Otherwise countries will be seeking for imports which come from the country on which the higher import tariffs are placed. But, as was shown earlier, this policy leads to shifting costs abroad and is not efficient.

Another important feature of the MFN principle is giving more equal opportunities in trade negotiations to small economies vis-à-vis rich countries. Caplin and Krishna (1988) developed a three-country dynamic bargaining model and suggest that MFN has an important effect on equal distribution of bargaining power across countries. Ludema (1991) also investigates the three-country bargaining game and reaches the conclusion that bargaining under MFN will result in a Pareto efficient trade agreement. Moreover, he finds that all countries gain from negotiations under the MFN principle, but not necessarily in its absence.

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Negative processes associated with the MFN principle are also studied. Rubinstein (1982) and Caplin and Krishna (1988) point out that the "free riding" of one country on the reciprocal agreements of others may bring some costs. The latter two authors employ a static model of simultaneous bargaining, and argue that the MFN principle requires the lowering of tariffs to all countries, not only those involved in bargaining. In this situation, a simultaneous round of bargains under the MFN rule may result in higher tariffs, compared with the scenario when MFN is not applied. Ludema (1991), who uses the three-country non-cooperative dynamic bargaining model, arrives at a different conclusion. In his model, one country makes a proposal to the other two and they are free to accept or reject it. If both countries accept the offer, bargaining is over and an agreement is concluded; if both reject, then the negotiations are repeated. If one country accepts and the other rejects, the accepting country can reconsider its decision. Ludema argues that, in the latter case, the accepting country has incentives to change its decision and continue bargaining. Under this dynamic set of bargaining games countries will be bargaining until Pareto-efficient MFN tariffs are achieved and the "free rider" problem does not bring substantial costs.

Enforcement

Even if trade agreement has been achieved, individual countries have incentives to cheat on such agreements by raising tariffs and shifting costs to trade partners. Therefore, an enforcement mechanism should be established and should support existing international trade agreements, thus allowing escape from the Prisoners Dilemma. GATT/WTO established the Dispute Settlement System for this purpose.

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Bagwell and Staiger (2000) model mechanism of Dispute Settlement System through infinitely-repeated tariff game of tariff formation. If deviation from the common tariff occurs, a retaliatory trade war starts. They conclude that enforcement should achieve and maintain a balance between short-term temptation to deviate from the agreed tariffs and enjoy a term of trade benefits from one side, and the long-term costs of future loss of cooperation from the other.

Maggi (1999) examined the role of the GATT/WTO in international trade cooperation and built a multi-country model in which governments repeatedly select import barriers. The author recognizes the further benefit of a dispute settlement mechanism, which occurs from aggregation of enforcement power. If governments join a multilateral enforcement mechanism, the combined punishment for deviating from a trade agreement will be much more serious and will prevent cheating.

Besides that, a dispute settlement may play an important role in gathering and disseminating information. Hungerford (1991) built a two-country model, and argued that although information gathering is costly, it allows the avoiding of even more costly trade wars. He argued that the "after" information on a certain case shows if there was a deviation from the agreement or not. Countries have incentives to start retaliation only if departure from an agreement is detected.

Kovenoch and Thursby (1992) showed that countries directly affected by deviation from a trade agreement facilitate monitoring and strengthen cooperation. They also argued that the very existence of a reliable dispute settlement system helps countries feel the obligations of a trade agreement and reduce incentives to step away from it.

Bown (2002) compared the dispute settlement process with safeguard measures. He argued that if countries need to deviate from a trade agreement, they may choose either a "legal" path – safeguard measures or an "illegal" one by unilaterally breaking an agreement and facing dispute settlement. The author showed that the WTO has high incentives to keep to "legal" behaviour, and only countries with a high potential to benefit from terms of trade change will choose an "illegal" option. Also, Bown (2002) noted more efficient dispute settlement rules under the WTO than under GATT.

Safeguard measures

Although being a part of an international trade agreement, countries may need to step away from free trade and apply higher protection to avoid domestic industry being seriously injured. The GATT/WTO envisaged such occasions and put in Safeguard measures, providing set of rules to avoid maltreatment of higher protection. Several studies concerned areas where laws regulating safeguard measures may be of hand: application of special protection too frequently and for too long a time.

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Bagwell and Staiger (1990) followed the work of Rotemberg and Saloner (1986) and showed that a weak international enforcement mechanism can lead to special protection when trade volumes decrease and governments have incentives to violate tariff bindings. Matsuyama (1990) and Mayer (1994) point out that if rules are not strong enough, special protection is likely to be over-utilized compared with a government's optimal plan. Both authors argue that GATT rules can enforce commitment to adhere to the optimal plan.

Matsuyama (1990) investigated the possibility of transferring a temporary protection to a prolonged one. In his model, the structure of the game between government and firms is as follows: in the first period the government chooses between liberalization of the pre-existent tariff and keeping it. If it decides to extend protection, the game continues. Then, firms choose whether to prepare for trade liberalization in the next period or not. If the government lacks credibility, firms will believe that temporary protection will be applied in the next period as well and will never choose to prepare for liberalization. If international safeguard rules have enough enforcement power, they can reduce the length of temporary protection.

Antidumping and countervailing measures

GATT/WTO includes Antidumping Agreement and Subsidies and Countervailing Measures Agreement that define dumping and subsidies, and provide a set of rules for dealing with them and placing restrictions on excessive use of such actions. Below is a review of the literature dedicated to the need for regulation of antidumping (AD) and countervailing (CV) measures, and the negative consequences if such regulation is absent.

Staiger (1994) noted that, broadly, there are three adverse effects which can potentially arise from AD and CV misuse: measurement bias, unintended effect of "legitimate" use and abuse.

Measurement bias may occur from the way dumping and subsidy margins are calculated. Boltuck and Litan (1991) among others came to the consistent conclusion that there tends to be a strong bias in the methodology of dumping and subsidy calculations that allow authorities to find a positive margin or subsidy. Thus, international rules concerning the procedures of calculating dumping and subsidies should avoid this problem.

An unintended effect of AD and CV may arise, even if there is no measurement bias and laws seem to serve their purposes. One such case was studied by Gruenspecht (1988). He built a two-country two-period duopoly model and scrutinized the implications of mutual antidumping enforcement. He reached the conclusion that mutual antidumping enforcement may limit output and push prices and costs of firms in both first and second periods, leading to a situation similar to the Prisoners Dilemma. Bagwell and Staiger (1989) showed that the threat of antidumping investigation may induce foreign governments to rely on export subsidies, even though CV measures may be applied. Staiger and Wolak (1992) pointed out that non-transparent AD laws can lead to lower output and trade, even if these laws are not utilized.

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The consequences of abusing AD and CV measures is similar to one identified by Staiger and Wolak (1992) and which occur as a result of loose antidumping laws, allowing too frequent use of them. Pusa(1992) argued that the fact that domestic firms may demand an investigation and withdraw before a decision is made can threaten foreign firms and give home producers more bargaining power in the limiting presence of foreigners. Finally, Staiger and Wolak (1992) stated that domestic firms may initiate an antidumping investigation even if they do not count on success in order to limit foreign competition. Once again, a clear set of international rules on AD and CV measures would help to combat unnecessary use of these mechanisms.

Foreign Direct Investment

Membership in the WTO potentially affects flows of capital through several channels. Below is a discussion of theoretical studies in this area.

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Volume of FDI

Trade theory links FDI and volume of trade, but has two opposing points of view in this relation. Thus there are studies which state that trade and FDI are complementary, as well as those pointing out that trade and FDI are substitutes: i.e. an increase in trade is coupled by an increase (former) or decrease (latter) in FDI or vice versa. Before proceeding, it is worth noting that FDI is distinguished between horizontal and vertical. Horizontal Foreign Direct Investment goes to the production of the same goods and services abroad. Vertical FDI is directed at foreign production of goods and services at certain stages of making. Studies in favour of substitution between trade and FDI can be classified into internalization theory, eclectic paradigm and horizontal investment theory. Internalization theory origins from the Coase theory of the firm (the fundamental article is Coase, 1937), which introduces the concept of transaction costs to explain the size of firms, and was elaborated further by Williamson. Buckley and Casson (1976) formulated internalization theory as follows: firms will prefer FDI if costs of internalization, consisting of such overheads as communication, administrative and other internal organization costs are less than expenses implied by exports.

Dunning (1980) developed a theory of eclectic paradigm, also known as the OLI framework. According to it, firms prefer FDI to trade if three advantages exist: Ownership, Location and Internalization. In case location advantage does not exist, firms prefer trade, so FDI and trade are two alternative strategies here.

The theory of horizontal investment goes back to the 1950s and was pioneered by Robert Mundell and his "tariff jump" notion (Mundell, 1957). Developed further by Hortsmann and Markusen (1992) and Brainard (1993), it assumes the existence of scale economies at firm and plant level and trade costs. Thus, firms face a trade-off between concentration of production and proximity to consumers. If economies of scale are high and trade costs are relatively low, it is worth concentrating production at one location and supplying foreign markets with exports. On the contrary, if trade costs are higher than the pay-off from economies of scale, it is better to supply foreign markets from plants located there. Thus, FDI and trade are substitutes and become more so if trade costs rise.

The theory of vertical investment makes use of differences in relative factor costs and was developed by Helpman (1984). According to this theory, firms split the production process to different groups which are relatively intensive in certain factors of production. FDI takes the form of separating headquarters and plants and placing each production segment in a country with relative abundance in the required factors. FDI creates trade since plants have to trade their output as intermediate input to other plants. In this case trade and FDI are complementary.

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More recent models tried to combine vertical and horizontal FDI and were named Knowledge-capital models. Most known studies in this field are by Markusen *et al.* (1996), developed further by Markusen (1997), Markusen (2000) and Carr *et al.* (2001). According to Forte (2004), these models are based on three assumptions: first of all, headquarters activities such as research and development can be done in a separate location from production; second, headquarters activities require more qualified labour input relative to production; third, headquarters activities have a "public good" properties and can be used by several facilities. The first two assumptions imply vertical investment: headquarters are located where qualified labour is and production where non-qualified labour is cheap. The third assumption creates economies of scale and horizontal investment. Depending on such variables as trade costs, differences in factor endowments across countries, etc., combinations of vertical and horizontal investment are created, and FDI and trade can be complementary or substitutes.

"Quality" of FDI

Not only the volume of capital flows may change as a result of WTO accession, but "quality" of FDI as well. Bhagwati was the first to study theoretical connections between trade regime and gains from FDI (Bhagwati, 1978). This subject was also studied by Bhagwati (1985, 1994), Brecher and Diaz-Alejandro (1977), and Brecher and Findlay (1983). The main idea is that benefits from investment depend on whether the trade regime is import-restrictive or export-promoting. If a country pursues an import restrictive policy, then investment will go to industries with no comparative advantage. In this case, FDI will not bring much benefit or can even be counterproductive by keeping inefficient industries working and diverting resources from efficient ones. Moreover, under the import-restrictive policy FDI may be affected by rent-seeking activities. An export-promoting regime, on the other hand, creates incentives for investment in competitive industries and does not bring distortions. On top of this, in that case production is not limited by the domestic market, and investment may promote production for foreign markets, which can result in additional benefits from economies of scale. WTO membership makes the trade regime more open with less import restrictiveness and more export development, hence increasing benefits from foreign direct investment.

FDI and Intellectual Property Rights

Most researchers agree that a country with stronger Intellectual Property Rights (IPRs) protection will attract more foreign investment. The reason is that a smaller risk of imitation increases demand for protected products and investing firms will enjoy longer periods of profitability.

Thus, Mansfield (1994) argues that if a developing country has weak IPR protection, multinational companies will be less eager to invest in such a country, and, if they do so, they would prefer to invest in a fully owned subsidiary or transfer outdated technology.

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Maskus (2000) reviewed the theoretical studies of how intellectual property rights influence foreign direct investment. He concluded that stronger IPR protection should be positively connected to the inflow of capital, but this relationship varies across different industries. The author argues that investment in low-technology products (such as textiles, assembly of products, distribution) does not depend much on strong IPRs. Neither does investment in products, which are costly to imitate illegally. In contrast, firms that manufacture products which can be easily copied (such as pharmaceuticals, chemicals, software) are highly interested in an efficient IPRs system and would pay particular attention to protection for patents and trade secrets.

Conversely, Braga *et al.* (1998) identified two cases in which IPRs may have a negative effect on FDI inflow. First of all, strong IPR protection may give title holders excessive market power which can theoretically lead to a reduction of supply and higher prices. Second, being sure in a high level of protection, foreign producers might switch from foreign direct investment to licensing; the latter is less favourable for economic development in a recipient country, compared with inflow of capital.

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2.3 Accession Process and Experience of Transition Countries

Accession Process

WTO accession is a complex and lengthy process and is becoming even more complicated as new WTO agreements and regulations come in force. Since the birth of the WTO in 1995 till the end of 2006, 21 countries have become members and 30 more are seeking membership (WTO, 2005).

Article XII of the WTO Agreement states: "Any state or customs territory having full autonomy in the conduct of its trade policies is eligible to accede to the WTO on terms agreed between it and WTO Members".

To initiate the process of accession, a country should submit an official request for accession to the WTO Director General. This request is considered during the next General Council meeting, and, in the case of a positive decision, the applicant country receives observer status and a Working Party opens to all WTO members. In the case of a large accessing country, many members participate in the Working Party, if the candidate is small, usually only the "Quad" countries (Canada, the EU, Japan and United States) as well as neighbouring countries take part.

Next, the applicant should present a Memorandum on the Foreign Trade Regime. The Memorandum explains the policies and institutions of the acceding country and forms the basis for further negotiations. This document includes a description of economic policies and foreign trade in goods and services, the trade-related intellectual property regime, investment, economic integration agreements with third countries, the decision-making process as well as the statistical appendix. After the Memorandum has been circulated among the WTO members, the "question-answer" stage starts. Members ask questions in order to clarify indistinct points and wait for a reply from the applicant. This process is usually repeated several times until members are satisfied with the Memorandum. By the end of this stage, the Working Party issues a draft report, containing the Memorandum, the questions and answers and discussions of the Working Party.

At some point during the "question-answer" process, the acceding country should submit an initial offer on goods and services which consists of a tariff schedule with an indication of the "bound" level of tariffs and a commitment on market access for services.

Having completed the initial offer, the countries start bilateral negotiations. Members of the Working Party assess the initial offer and generally ask for further concessions and commitments. Negotiations continue until all sides are satisfied with the offer and result in signing a bilateral agreement. When the process of bilateral negotiations concludes, all commitments and concessions are combined in the Schedule of Concessions and Commitments on Goods and the Schedule of Specific Commitments on Services.

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After that, the WTO Secretariat prepares the Accession Package, which consists of the following documents:

- The Working Party Report;
- The Protocol of Accession;
- The Schedule of Concessions and Commitments on Goods;
- The Schedule of Specific Commitments on Services.

This Accession Package should be adopted at the final Working Party meeting and passed for approval to the General Council or the Ministerial Conference. The Decision of the General Council or the Ministerial Conference should be adopted by consensus, or by two thirds in a case in which at least one country has objections. The applicant country signs the Protocol of Accession and 30 days after becomes a member of the WTO.

Overall, the policy and regulations of the acceding country should be consistent with 15 mandatory agreements of the WTO (USAID, 2004):

1. The General Agreement on Tariffs and Trade (GATT)
2. The Agreement on Agriculture
3. The Agreement on the Application of Sanitary and Phytosanitary Measures (SPS)
4. The Agreement on Textiles and Clothing
5. The Agreement on Technical Barriers to Trade (TBT)
6. The Agreement on Trade-Related Investment Measures (TRIMs)
7. The Agreement on Antidumping (AD)
8. The Agreement on Customs Valuation
9. The Agreement on Preshipment Inspection (PSI)
10. The Agreement on Rules of Origin
11. The Agreement on Import Licensing Procedures
12. The Agreement on Subsidies and Countervailing Duties (CVD)
13. The Agreement on Safeguards (SG)
14. The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs), and
15. The General Agreement on Trade in Services (GATS)

Accession experience of transition countries

The experience of transition countries in gaining membership in the WTO is discussed below. Table 2.4 presents the timeline of accession of the selected transition economies in Europe and Asia.

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The oldest members are several former socialist countries, namely the Czech Republic, Hungary, Poland, Romania, Slovak Republic and Slovenia. They joined the GATT system prior to the WTO creation, and in order to become WTO members they just had to sign a draft charter on the WTO when it was established.

Bulgaria and China both applied in 1986, but the process of accession was quite lengthy, 10 and 15 years respectively. In fact, the accession of China is so far the longest one in the history of the WTO. The Baltic States applied in 1993–94 and it took them 5–6 years to gain membership.

Out of the 12 CIS countries, only 4 have completed the application process: Armenia, Georgia, Kyrgyzstan and Moldova. Contrary to China, Kyrgyzstan has set another record: the shortest accession in the history of the WTO, less than 3 years. Other countries are at different stages of progress. Turkmenistan has yet failed to submit its official application in accordance with WTO rules. Tajikistan and Uzbekistan have made modest progress so far: Uzbekistan had only 3 Working Party meetings during its 12 years of accession. Kazakhstan has made substantial progress recently, but according to United Nations Economic and Social Commission, the course was practically stagnant for some time. This happened because Kazakhstan made an initial offer with rates much higher than the applied ones: for some sectors there was no binding. It also made few commitments to open the services sector. Thus, when Kazakhstan made a tariff offer on goods in 1997, the Working Party members did not accept it as a basis for further negotiations (ESCAP 2001).

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Country	Application	Membership	Country	Application	Membership
EU accession countries			**Commonwealth of Independent States**		
Bulgaria	11/1986	12/1996	Armenia	11/1993	05/2003
Czech Republic		04/1993 (GATT)	Azerbaijan	07/1997	
Hungary		09/1973 (GATT)	Belarus	09/1993	
Poland		10/1967 (GATT)	Georgia	07/1996	06/2000
Romania		11/1971 (GATT)	Kazakhstan	01/1996	
Slovak Republic		04/1993 (GATT)	Kyrgyzstan	01/1996	12/1998
Slovenia		10/1994 (GATT)	Moldova	11/1993	07/2001
Estonia	03/1994	11/1999	Russia	06/1993	
Latvia	11/1993	02/1999	Tajikistan	05/2001	
Lithuania	01/1994	05/2001	Turkmenistan	11/1993	
			Ukraine		
Other CEC			Uzbekistan	12/1994	
Albania	11/1992	09/2000	**Asia**		
Bosnia and Herzegovina	05/1999		Cambodia	12/1994	10/2004
Croatia	09/1993	11/2000	China	07/1986	12/2001
FYR Macedonia	12/1994	04/2003	Mongolia	07/1991	01/1997
			The Lao PDR	07/1997	
			Viet Nam	01/1995	01/2007

Table 2.4 WTO Accession of Selected Transition Countries.
Source: WTO secretariat

In 1992, the Russian Federation inherited from the USSR the status of observer in GATT and applied for accession in the middle of 1993. In February 1994, Russia submitted a Memorandum of the Foreign Trade Regime in the Russian Federation. Two years were needed to proceed sufficiently to establish a Working Party consisting of 58 members. At the start, the Working Party concentrated on a multilateral discussion of economic regulations and trade policy in Russia. In 1998, Russia submitted its initial tariff offer on goods and offers on government support of agriculture. In 1999, it submitted the first draft of specific commitments on services and a list of exemptions from MFN principle. Submission of these documents allowed bilateral negotiations to start. According to the Russian Ministry for Economic Development and Trade (www.wto.ru), over 50 countries are involved in trade negotiations on goods and over 30 countries in negotiations on services.

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There are several issues which have provoked serious discussion between Russia and members of its Working Party: energy pricing, intellectual property rights, agriculture, sanitary and phytosanitary regulations, trade in services, civil aircraft, and other issues.

Russian-exported energy resources are sold at world prices, while domestic sales are regulated by the government, which has resulted in considerably lower domestic prices. Several WTO members have expressed concerns that such dual pricing gives Russian producers an unfair competitive advantage and disagrees with the WTO regulation on subsidies. In return, the Russian side argued that lower domestic prices reflect comparative advantage in the production of energy and do not contradict WTO stipulations on subsidies, since they are provided to all economy, and not just to selected enterprises or industries (Cooper, 2006).

Intellectual property rights in Russia are also raising concerns among WTO members, especially the USA. Although Russia has passed laws protecting intellectual property rights, and has become a member of major international conventions in this sphere, its enforcement of the laws is not sufficient. As estimated by the International Intellectual Property Rights Alliance, as a result of the violation of intellectual property rights in Russia losses of U.S. companies amounted to USD 1.7 billion in 2005 (IIPRA, 2006). At the end of 2005, Congress even threatened to call back its programme of Generalized System of Preferences for Russia if the latter did not enforce respective laws (Cooper, 2006).

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Agriculture has evoked some controversy as well. First of all, WTO members are not satisfied with the high level of support envisaged for the Russian agricultural sector, and claim that it is not in line with the current round of negotiations, the Doha Development Agenda. Second, the decision taken in 2003 to restrict imports of meat to Russia is argued as contradicting the "standstill" principle that requires countries to abstain from imposing new trade barriers while negotiating accession.

Other significant disputed issues are the reluctance of Russia to allow the opening of branches of foreign banks and to sign the plurilateral WTO Civil Aircraft Agreement, which is approved by only 26 WTO members and requires elimination of the tariffs on trade in aircrafts, and some equipment (Cooper, 2006).

The Russian Federation has chosen to follow a protectionist strategy in negotiating tariff rates. As shown in Table 2.5, the weighted average rates of import tariffs on agricultural products was 14.7% in 2001, but Russian authorities planned to agree initial bound tariff rates at a level of 34.7%: it is intended that even the final bound rate after the transition period will stay at the level of 25%, which is even higher than prior to the WTO membership. The same picture is for industrial goods: the initial tariff rate is 14%, the final one almost 10%. Industries which are projected to receive a high level of protection are textiles, metallurgy, and machinery.

	Applied import tariff rate, % (as of Jan. 2001)	Initial bound rate of import tariff, %	Final bound rate of import tariff, %
Agricultural goods	14.70	34.71	25.11
Industrial goods	9.73	14.32	9.84
Including:			
Mineral products	5.43	11.06	5.43
Chemicals	8.48	10.22	6.09
Forestry, paper industry	8.73	14.62	7.85
Textiles	11.69	18.31	12.37
Metallurgy	11.35	19.29	11.70
Machinery	9.48	14.83	8.75

Table 2.5 Weighted Average of Applied and Bound Rate of Tariffs in Russia.
Source: www.wto.ru

The next table (Table A.1 in appendix) summarizes the commitments made by some of the new WTO members. Bound import tariff rates vary quite considerably among countries: from 10% to 35% for agricultural products and from 5% to 20% for industrial goods.

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Bulgaria has the highest level of protection for agricultural products: the average import tariff rate is almost 35%, followed by that of Latvia, with 33.6%. Two other Baltic States, Estonia and Lithuania have also set high tariffs for agricultural imports: 17.7% and 15.6% respectively. Other countries, excluding Mongolia, are committed to an average 10–12% of import tariffs on agricultural goods. Mongolia negotiated on an 18.4% import tariff rate for agricultural products and 20% for industrial goods. Bulgaria, Latvia and Lithuania follow with 12.6%, 9.3% and 8.2% import tariffs rates for industrial products respectively. Other countries have agreed to set import tariffs for industrial goods at the 5–6% level. All countries are committed to cease export subsidies for agriculture and have agreed to keep the limit of the total aggregated measurement of support to agriculture at a level of agricultural production of either 5% or 10% depending on their income.

Several studies have concentrated on the peculiarities of accession to the WTO by transition countries. Thus, Michalopoulos (1998) pointed that transition countries have specific impediments on the way to the WTO membership. Michalopoulos (1998) has drawn attention to the fact that "(a) there are extensive legislative requirements that need to be met prior to accession and, legislative processes are inherently time consuming; (b) acceding countries have weak institutional capacities and sometimes even lack familiarity with the economic and legal issues that need to be addressed; (c) WTO members have been placing greater demands on acceding countries than the disciplines required from existing members; (d) … compared with the IMF and the World Bank, the WTO provides much less technical assistance in support of accession; (e) accession requires that the specific commercial interests of all members are addressed, which requires extensive and time consuming negotiations." The United Nations Economic and Social Commission (ESCAP, 2001) also point to the lack of analytical and policy-making experience of transition countries, especially during preparation of the Memorandum on the Foreign Trade Regime as well as the question and answer stage. Another significant barrier is constantly raising requirements to the new members, as WTO rules become more sophisticated.

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2.4 Ukraine and World Trade Organization

The process of Ukraine's accession to WTO system started in 1993, when the official application was submitted; later in 1994 a Memorandum on the Foreign Trade Regime of Ukraine was sent to the WTO Secretariat. Altogether, 17 Working Party meetings have been held. The chronology of these meetings, agenda and decision of the Working Party are given below.

Agenda	Decision of the Working Party
Monitoring of economic policies and import regulations and their compliance with GATT/WTO requirements In particular: • Privatization; • Subsidies to goods manufacturers; • Tariff and non-tariff regulation; • Budget and monetary policy; • Standards; • Trade-related intellectual property regime;	WP requested additional information on trade regime
Reform of agricultural sector	Ukraine should set reform of agricultural sector as a main goal for preparation for the second WP meeting

First meeting of the Working Party
February 27–28, 1995

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Agenda	Decision of the Working Party
Review of the latest achievements in bilateral negotiations on market access of goods and services	Since Ukraine's economy is in transition, negotiations on market access should be based not on applied import tariff rates, but on Concept of Custom Rates Transformation
Reform of agricultural sector, in particular: Brining protection rules on accordance with the GATT/WTO system; SPS measures, privatization; Agricultural trade enterprises.	Conduct tariffication of non-tariff barriers
State of services market, degree of its compliance with the GATS	WP requested additional information on trade in services
State of intellectual property rights system, degree of its compliance with the TRIPS	Legislation should be changed to comply with the TRIPS requirements
Improvement of state trading system	Changes in legislature are required
Bilateral trade agreements of Ukraine	More information is needed.

Second meeting of the Working Party
December 11–12, 1995

Agenda	Decision of the Working Party
Harmonization of foreign trade legislation in accordance with WTO requirements	WP expressed concerns about official position of Ukraine's government to improve trade balance through decrease of imports
Study of schedule of commitments on services	More work is needed, especially concerning banking sector, telecommunications and sea transport
Analysis of standards, certification and licensing system	System of non tariff regulation does not correspond to the WTO requirements and aims at decrease of imports. This concerns a system of indicative prices, registration of contracts, certification. WP points at import-prohibitive nature of such barriers.
Analysis of Ukraine's trade preferential agreements	Ukraine should revise an agreement on industrial cooperation within the CIS countries, since it disagrees with nondiscrimination WTO requirements

Third meeting of the Working Party
December 11–12, 1995

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Agenda	Decision of the Working Party
Discussion of first round of negotiations on market access for goods	WP pointed at negative consequences of specific import tariff, established at 1996
Discussion of first round of negotiations on market access for services	WP positively evaluated commitments made by Ukraine and proposed concentrating on financial and insurance markets
Analysis of standards, certification and licensing system	WP once again drew attention to non transparency of non-tariff barriers in Ukraine
Analysis of Custom Code project	Custom Code project is a good starting point, but more work is needed on customs valuation and rules of origin
Discussion of domestic support and export subsidies in agricultural sector	WP does not agree to set base period of agriculture support as in years 1986–1990

Fourth meeting of the Working Party
May 6–7, 1997

Agenda	Decision of the Working Party
Review of the latest achievements in bilateral negotiations on market access of goods and services	WP pointed to following positive developments intentions of Ukraine to: • Join Reference Paper on telecommunications; • Decrease import tariffs for IT goods to zero; • Do not apply export subsidies for agricultural products.
Review of domestic support and export subsidies in agricultural sector	Following problems were noticed: • Law "On State Regulation of agricultural imports"; • Excess requirements concerning certification of goods; • Minimal prices on agricultural import.
Review of Memorandum on taxation regime in Ukraine	WP expressed concerns about the Law "On support of car production in Ukraine"
Review of Memorandum on technical barriers to trade	There is a need to establish an information centre on standardization and certification; reciprocally recognize certificates.
Review of Memorandum on sanitary and phytosanitary measures	There is a need to establish an information centre on sanitary and phytosanitary measures; reciprocally recognize certificates.
Additional questions	Ukraine gave answers on additional questions of the WP concerning foreign trade regime

Fifth meeting of the Working Party
November 24–25, 1997

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Agenda	Decision of the Working Party
Developments in the foreign policy of Ukraine	Worries were expressed concerning significant deterioration of trade and investment climate in Ukraine; discrimination during collection of VAT and excise tax; appliance of minimal prices.
Review of the latest achievements in bilateral negotiations on market access of goods and services	Considerable progress was noticed, some countries stated that they are close to signing bilateral agreement with Ukraine
Technical barriers to trade, sanitary and phytosanitary measures	WP again stressed the discrimination character of import control system, for instance requirements to obtain several certificates on one good, etc. Without significant improvement in technical barriers no further progress in accession is possible
Intellectual property rights	Ukraine disseminated Memorandum on intellectual property rights and requested 3 years transition period.

Sixth meeting of the Working Party
July 10, 1998

Agenda	Decision of the Working Party
Review of legislation	WP were interested in studying following laws: • Custom Code; • Law on custom valuation; • Law on state trade. Also, questions were raised concerning import quotas, TBT, SPS and preferential excise tax payment for domestic goods.
Privatization	Ukraine informed about privatization of its enterprises and clarified requirements to investment and its sources.
Agriculture	European Union stated that its companies had difficulties accessing Ukrainian agricultural market.
TBT	WP noticed positive changes in TBT and requested additional information about goods, subject to compulsory certification.
SPS	WP requested Ukraine to provide full information of adjusting legislature according to WTO requirements.
Support of domestic enterprises	Ukraine has a number of subsidies: support of domestic car production, free economic zones with tax privileges. Request was made concerning adjustment of legislature and state enterprises, functioning in free economic zones.
TRIPS	WP requested Ukraine to provide full information of adjusting legislature according to WTO requirements.
Trade with CIS countries	WP asked for information concerning trade benefits to CIS countries which constrain trade with other countries

Seventh meeting of the Working Party
July 12, 2000

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Agenda	Decision of the Working Party
Review of the latest achievements in bilateral negotiations on market access of goods and services	WP noted that first bilateral protocols were signed with Mexico, Uruguay and New Zealand and several other countries are close to signing it.
Review of legislation	WP concentrated on legislation concerning import licensing, import taxes, custom valuation.
Further agenda of the WP	Adjustment of legislature according to WTO requirements is a prerequisite of further progress in accession

Eighth meeting of the Working Party
June 13–14, 2001

Agenda	Decision of the Working Party
Review of the latest achievements in bilateral negotiations on market access of goods and services	More bilateral protocols were signed. Ukraine provided revised tariff concession schedule.
Review of legislature	Ukraine provided WP with new schedule of adopting WTO-related legislature. It consisted of 20 laws, which were planned to be approved by March 2003.
Discussion of documents provided prior to WP meeting concerning TBT, SPS, intellectual property rights, tax regime.	WP acknowledged that Ukraine fulfilled its obligations, made during last meeting. More detailed study of legislation is needed, especially Custom Code, import licensing, and intellectual property rights.
Further agenda of the WP	WP made decision to prepare check-list of questions concerning trade regime of Ukraine. Answers to these questions will become a basis for draft Report of the WP
Multilateral meeting of WP members concerning agriculture	Ukraine disseminated document describing strategy of agricultural sector developments and grounds for defining level of domestic support

Ninth meeting of the Working Party
July 25–26, 2002

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Agenda	Decision of the Working Party
Review of the latest achievements in bilateral negotiations on market access of goods and services	Considerable progress was made during bilateral negotiations; relatively few questions are left undecided.
Review of legislature	Ukraine approved 15 out of 20 laws, planned as a phase of adjustment. Such questions as sanitary and veterinary legislation have to be studied additionally.
Review of Ukraine's replies to a check-list of questions	During review of consolidated check-list of questions and answers main attention was drawn to following topics: • Privatization; • Licensing of imports; • Custom valuation, custom clearance (in particular rational for financial backing of transit goods); • Sanitary requirements (in particular necessity of sanitary control of transit goods, doubling of sanitary requirements by different branches of authorities); • Agriculture, rational for setting 2000-2003 as a base for calculation of total measurement of support.
Further agenda of the WP	• WP and Ukraine should: • Continue bilateral negotiations; • Monthly monitor schedule of adopting legislature; • Prepare revised answers to Consolidated check-list of questions and answers; • Hold multilateral negotiations concerning state support of agriculture; • Start preparing first draft of WP Report.

Tenth meeting of the Working Party
February 25–26, 2003

Agenda	Decision of the Working Party
Review of the latest achievements in bilateral negotiations on market access of goods and services	There are several unsettled questions in bilateral negotiations. The concern is import tariffs for sensitive sectors of economy, like agriculture, fishery, food processing.
Review of legislature	WP was informed about newly adopted legislature in spheres of technical regulations, intellectual property rights, and dissemination of audio and video records, software. WP requested additional work on laws concerning TBT and SPS.
Review of Ukraine's replies to a check-list of questions	WP noted that more work is needed in following spheres: • Foreign currency regulation; • Price regulation; • Privatization; • Licensing; • SPS.
Further agenda of the WP	Ukraine should: • Proceed with legislative reforms; • Prepare answers to additional questions concerning market access.

Eleventh meeting of the Working Party
October 27–28, 2003

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Agenda	Decision of the Working Party
Review of the latest achievements in bilateral negotiations on market access of goods and services	WP noticed progress in bilateral negotiations and admitted that Ukraine faces additional requirements that emerge from current multilateral trade round of the WTO
Review of domestic support and export subsidies in agricultural sector	WP requested additional information concerning proposition of applying tariff quotas on sugar
Review of foreign trade regime	WP requested additional information concerning export restrictions of some products, i.e.: cattle, leather, scrap of ferrous steel, sunflower seeds

Twelfth meeting of the Working Party
April 26–30, 2004

Som medarbetare i Riksbyggen vill vi att du ska känna att du är viktig och att du tydligt kan se hur du bidrar till att vi uppnår våra mål. Vi erbjuder dig stimulerande och utvecklande arbetsuppgifter i ett kreativt arbetsklimat.

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Agenda	Decision of the Working Party
Foreign exchange regulations	Regulation, requiring obligatory sale of 50% of foreign exchange revenues should be ceased
Support of domestic enterprises	Subsidies to automobile sector should be eliminated without transition period; Minimum and maximum prices for imports and exports should be abolished; No quantitative restrictions on fish and fish products trade should be applied
Review of legislature	Concerns were raised resulting from VAT exemptions on certain imports from Russia, including crude oil and some agricultural products

Thirteenth meeting of the Working Party
September 20–21, 2004

Agenda	Decision of the Working Party
Support of domestic enterprises	Ukraine should abolish privileged VAT tax rate for domestic producers of automobiles; No discrimination should be practiced in Free Economic Zones.
Review of legislature	Custom Code should not violate geographical indications requirements; Export tax for steel scrap should be canceled
Review of domestic support and export subsidies in agricultural sector	Problems arise due to application of minimal prices for sugar

Fourteenth meeting of the Working Party
March 22–23, 2005

Agenda	Decision of the Working Party
Support of domestic enterprises	Ukraine should cancel: • Restrictions on automobile imports with regard of their age; • Subsidies for natural gas purchase to selected enterprises; • Restrictions on export of non-ferrous steel scrap; • Export tax for ferrous steel should be 5% at the end of transition period
Review of domestic support and export subsidies in agricultural sector	Abolish minimal prices for sugar
Review of legislature	Laws in following spheres need additional work: • Import licensing of alcoholic beverages; • Veterinary regulations

Fifteenth meeting of the Working Party
November 23–24, 2005

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Agenda	Decision of the Working Party
Review of the latest achievements in bilateral negotiations on market access of goods and services	WP was pleased that bilateral negotiations were concluded with all countries, besides Kyrgyzstan. The issues which were raised by Kyrgyzstan may be politically motivated
Review of domestic support and export subsidies in agricultural sector	Ukraine should eliminate price control over agricultural commodities; Import quotas on sugar should be cancelled and transparent procedures for tariff quotas should be set;
Review of legislature	Changes should be made to: • The law on banking activities to allow establishment of foreign banks branches; • The Value Added Tax law remaining national treatment violations; • The Law on Government procurement

Sixteenth meeting of the Working Party
June 15–16, 2006

Agenda	Decision of the Working Party
Review of Ukraine's progress with regard to becoming a WTO member	Progress of Ukraine was acknowledge as sufficient to become a WTO member
Review of commitments in goods and services	Final commitments of Ukraine with regard to trade in goods and services were agreed
Draft decision concerning accession of Ukraine to the WTO	Ukraine may accede to the WTO Agreement on the terms and conditions agreed during this Working Party

Seventeenth meeting of the Working Party
January 25, 2008

Bilateral negotiations between Ukraine and WTO members started in 1997. There are 51 countries which decided to conduct such negotiations; by the end of 2007, all 51 protocols had been signed (Table 2.6).

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2001	Mexico Uruguay New Zealand	2004	Switzerland Argentina Malaysia Paraguay Lithuania Turkey Mongolia Sri Lanka
2002	Canada Republic of Korea Slovenia Georgia Latvia India	2005	El Salvador Japan Norway Indonesia Moldova Croatia Iceland Peru Ecuador China Honduras Dominican Republic Morocco Romania
2003	Hungary European Union Czech Republic Slovakia Bulgaria Cuba Israel Poland Brazil Estonia Thailand	2006	USA Armenia Panama Australia Egypt Columbia Chinese Taipei

Table 2.6 Signature of Bilateral Protocols between Ukraine and WTO Members
Source: Ministry of Economy of Ukraine

During bilateral negotiations, WTO members raised the following issues:

Lithuania Goods: machinery, import duty on mineral oil products.

Argentina Goods: geographical indications, in particular wine and cheese. Domestic support of agriculture

Turkey Goods: metal scrap

El Salvador Goods: market access of cane sugar

Japan Goods: certification of electronic goods;

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Services: enforcement of intellectual property rights protection; market access of foreign banks' branches and insurance companies.

Norway Goods: Norway required larger concessions on fish, canned fish, and navigation equipment.

Services: market access for sea transport and telecommunications.

Moldova Goods: questions concerning Ukraine's trade regime, i.e.: transit, licensing;

Services: presence of natural persons

Croatia Goods: agricultural products.

Iceland Goods: fish, food processing machinery

China Goods: textiles

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Services: sea transport

USA Goods: agricultural products (poultry, fish);

Services: enforcement of intellectual property rights protection; market access of foreign banks' branches and insurance companies.

Australia Goods: market access for cane sugar; increase of quota for cane sugar; abolishment of minimal prices for sugar; commitments concerning reforms in sugar industry; geographical indications

Chinese Taipei Goods: fish;

Services: sea transport, financial services

Kyrgyz Republic Goods: agricultural products, textile, machinery; (signed in late 2007) Other: dispute over state debt

There are five types of WTO commitments which Ukraine had to make: goods commitments, services commitments, legal, rules, and notification ones.

Goods commitments

This type of commitment refers to binding import tariff rates and agricultural subsidies commitments.

As mentioned earlier, prior to WTO accession, Ukraine applied Most Favoured Nation (MFN) tariffs (applicable to 45% of imports in 2002), full import tariffs (relevant to only 3% of imports), as well as Free Trade Agreements with a number of significant trade partners (53% of imports came from them in 2002).

The first consolidated tariff offer was submitted to the WTO in 1999 and was revised for several times afterwards. Table 2.7 presents the MFN, full tariffs, as well as the WTO tariff commitment of Ukraine for key sectors. In general, bound tariffs under WTO are quite low: around 11.1% for agricultural products and 4.6% for industrial goods.

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	MFN Tariff	Full Tariff	Post-WTO
Agriculture	26.7	78.7	19.4
Fishery	21.2	57.2	10.0
Mining of coal and peat	0.0	0.0	0.0
Production of non-energy materials	1.1	7.2	1.1
Food-processing	50.5	68.2	18.9
Textiles and leather	8.2	20.2	4.0
Forestry, wood working, paper industry	8.1	24.0	4.9
Petroleum refinement	0.0	0.0	0.0
Chemicals	7.9	17.4	5.8
Other non-metallic mineral products	11.1	23.0	10.0
Metallurgy	3.8	9.8	1.5
Machinery	7.3	19.8	3.5
Miscellaneous	9.8	30.6	8.5

Table 2.7 Import Tariff Commitments of Ukraine
Source: WTO, IER (2006) calculations Dutch Grant # TF 050270

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To define the bound level of domestic support, Ukraine proposed to choose the base period of 1994–1996. The Aggregate Measure of Support (AMS) constitutes 5% of agricultural production, or roughly USD 1.4 bn.

Services commitments

There are four modes of transactions identified by GATS classification depending on the territorial presence of supplier and consumer at the time of the transaction (WT/ACC/10, 2001):

- Mode 1 refers to cross-border trade (the supply of a service from the territory of one member into the territory of any other member);
- Mode 2 to consumption of services abroad (the supply of a service in the territory of one member to the service consumer of any other member);
- Mode 3 to commercial presence (the supply of a service by a service supplier of one member, through commercial presence in the territory of any other member); and
- Mode 4 to the presence of natural persons (the supply of a service by a service supplier of one member, through presence of natural persons of a Member in the territory of any other member).

Limitations based on these classifications are:

- limitations on the number of service suppliers;
- limitations on the total value of service transactions and assets;
- limitations on the total number of service operations as the total quantity of service output;
- limitations on the total number of natural persons employed; restrictions on specific types of legal entity as joint venture;
- ceilings on foreign equity participation.

Partial commitments of Ukraine, i.e. those which have some limitations, are presented in Table 2.8 below.

Sectors	Limitations on market access	Limitations on national treatment
Horizontal commitments		
Land ownership	No limitations	3), 4) Foreigners cannot acquire agricultural purposes land. No limitations on renting land.
Subsidies	No limitations	Only citizens of Ukraine have the right to obtain subsidies.
Movement of natural persons	4) Foreigners should obtain work permits.	No limitations

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Sectoral commitments		
Notary services	1), 3), 4) Only citizens of Ukraine are permitted to supply notary services	No limitations
Auditing services	1) Requirement of a compulsory confirmation by an auditing firm of Ukraine of a foreign auditor's conclusion	No limitations
Medical and dental services	3) Professional qualification requirements according to Ukrainian legislation	3) Foreigners must speak Ukrainian.
Services provided by midwives, nurses, physiotherapists and paramedics	3) Professional qualification requirements according to Ukrainian legislation	3) Foreigners must speak Ukrainian.
Postal services	1), 2), 3) Licensing systems may be established for some sub-sectors.	No limitations
Education services	3) Only a citizen of Ukraine may be the head of an educational institution.	No limitations
Insurance services	3) Five years transition period is required	No limitations
Reinsurance and retrocession services	1) Foreign re-insurer should have a continuous experience in the insurance activity not less than three years.	No limitations
Money market instruments	3) Requirement to register as a legal entity	No limitations
Services related to derivative products	3) Requirement to register as a legal entity	No limitations
Other negotiable instruments, including gold bars	3) Requirement to register as a legal entity	No limitations
Securities emission	3) Only legal persons engaged exclusively in issuance of securities, and banks;	No limitations
Asset management	3) Requirement to register as a legal entity	No limitations
Hospital services	3) Professional qualification requirements according to Ukrainian legislation	4) Foreigners must speak Ukrainian
Other human health services	3) Professional qualification requirements according to Ukrainian legislation	4) Foreigners must speak Ukrainian
News agency services	3) Foreign investment is limited to 30%	No limitations
International transport	4) Unbound, except as provided in the horizontal section	No limitations

Table 2.8 Partial Services Commitments of Ukraine.
Source: Ministry of Economy of Ukraine, WTO Secretariat

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Legal commitments

Legal commitments concern laws, regulations, etc. which have to be adopted prior to accession to the WTO. Some important laws which had to be implemented or changed are:

Law on cancellation of export ban for metal scrap to replace export ban for metal scrap with export duty for these products and to reduce such duties gradually.

Law on tariff rate quota for raw cane sugar to eliminate quotas on imports of cane sugar and replace it with tariff rate quotas in order to meet bilateral commitments of Ukraine.

Law on banks and banking activities to allow for establishing of foreign banks' subsidiaries in Ukraine according to a WTO member's request.

Law on state support of agriculture in Ukraine to eliminate minimum import prices and other WTO-inconsistent provisions.

Law on alcohol and tobacco and some articles of Law on the taxation system to bring import licence fees in line with GATT 1994 and eliminate discriminatory fees for spirits, alcohol and tobacco products.

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Law on procurement of goods, services, and works to indicate that state enterprises are subject to the Law on government procurement only when procuring for governmental use.

Law on some issues of imports of vehicles into Ukraine – to eliminate age limit on import of used vehicles.

Rules commitments

The main aim of the rules commitments is to establish whether Ukraine's policy conforms to WTO rules and, in particular, how it should be changed if necessary. State bodies should confer with these commitments before making decisions, which would affect foreign trade regime.

There are different types of rules commitments (WT/ACC/10, 2001):

- Statements of fact rather than commitments;
- Obligations to stand by existing WTO rules, sometimes specifying national measures to be amended to bring them into conformity with WTO provisions on the subject in question, sometimes elaborating on the WTO provisions on the subject in question;
- Obligations not to have recourse to specific WTO provisions, e.g. those relating to transitional periods. These most often relate to customs valuation and TRIPS;
- Specific identification of transitional periods that may be used, e.g. customs valuation. These relate to right of appeal, other duties and charges, subsidiaries and trade-related investment measures;
- Authorisation to depart temporarily from WTO rules or from commitments in the Goods Schedule. These are related to internal taxes, import licensing, technical barriers to trade and agricultural support;
- Obligations to abide by rules created by the commitment paragraph and not contained in WTO Multilateral Agreements. These relate to an obligation to comply with "WTO obligations and other international obligations", privatisation, sub-central governments, government procurement, trade in civil aircraft and publication.

The selected rules commitments of Ukraine are listed below.

State ownership and privatization

Ukraine would provide periodic reports to WTO Members on developments in its programme of privatization.

Pricing policies

Ukraine introduced changes to the Law "On State Support of Agriculture in Ukraine" which would cancel the provisions on minimum purchase prices applied to imports, as well as the provisions on the introduction of quotas on imports or exports.

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Customs duties

Ukraine committed not to change the staging of the tariff reductions, as indicated in its tariff offer. Ukraine would not list any "other duties and charges" in its Schedule of Concessions and Commitments on Goods, binding such charges at zero from the date of accession.

Tariff rate quotas, tariff exemptions

From the date of accession, Ukraine would allocate its only tariff rate quota on raw cane sugar in conformity with the WTO requirements. Allocation methods would not have trade-restrictive or distortive effects on imports. Ukraine would introduce a process of consultation with trading partners, importers and exporters prior to the amendment of the tariff quota.

Application of Internal Taxes on Imports

Ukraine would apply its domestic taxes, including the excise taxes and value added taxes, in full compliance with provisions of the WTO, including the Agreement on Subsidies and Countervailing Measures. Ukraine would amend the Laws on VAT and taxation of agricultural producers to ensure full conformity with the provisions of WTO upon accession.

Import licensing systems

Ukraine will eliminate the ban on imports of buses, trucks and cars older than eight years. From the date of accession, Ukraine would eliminate and would not apply quantitative restrictions on imports such as licensing, quotas, bans, etc., that cannot be justified under the WTO provisions.

Anti-dumping, countervailing duties, safeguard regimes

Ukraine would not apply any anti-dumping, countervailing or safeguard measures until it had implemented appropriate laws in conformity with the provisions of the WTO Agreements on Subsidies and Countervailing Measures, and on Safeguards.

Export restrictions

Ukraine is committed to eliminate the export ban on non-ferrous scrap by the date of accession, and to substitute it by export duties.

Export subsidies

From the date of accession Ukraine will not maintain export subsidies.

TBT

Ukraine would ensure that only technical regulations meeting WTO requirements would be mandatory. Ukraine would not use standards and technical regulations in a manner that would be restrictive to international trade, prohibitive to imports, and discriminatory of individual exporters and suppliers.

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SPS measures

The Enquiry point on SPS measures would be in operation from the date of Ukraine's accession to the WTO. Ukraine would apply all its SPS measures consistently with the requirements of the corresponding WTO Agreements without any transitional arrangements.

State-trading entities

State owned enterprises would make purchases of goods and services, which were not intended for governmental use and sales in international trade in accordance with commercial considerations, and would give enterprises of other WTO members adequate opportunities.

Transparency

From the date of accession, all legislation related to trade would be published promptly in a manner that fulfils WTO requirements. Therefore, no law or regulation related to international trade would become effective prior to such publication in an official source of information.

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Notification commitments

Ukraine, along with other members, agreed to comply with notification commitments. The purpose of such commitments is to prevent WTO member states from creating obstacles to international trade through national measures, which sometimes may be non transparent for other members. Under these commitments, Ukraine is obliged to report all proposed changes in regulations which affect the operation of the WTO system.

Ukraine is committed to notify changes in all major fields which fall under WTO agreements: trade in goods and services, agriculture, SPS and TBT, TRIMS, antidumping, subsidies, safeguard measures, etc. Notification commitments state in what cases Ukraine should notify WTO; to whom exactly it should send notification; terms, during which notification should be made; what kind of information should be provided; and the proposed format of notification.

Hence, in the case of safeguard measures, Ukraine should inform about: (a) initiating an investigatory process relating to serious injury or threat to domestic industry and the reasons for it; (b) finding a case of serious injury or threat caused by increased imports; (c) taking a decision to apply or extend a safeguard measure.

Notification should be made to the Committee on Safeguards. Information has to be sent as soon as Ukraine arrives at any of the three cases pointed above. In the case of a provisional safeguard measure Ukraine should notify before taking this measure. Notification should contain evidence of serious injury or threat caused by increased imports, a precise description of the product involved and the proposed measure, the proposed date of introduction, the expected duration and timetable for progressive liberalization. In case of an extension of a measure – evidence that the industry concerned is adjusting shall also be provided.

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3 Methodology of Research

3.1 Computable General Equilibrium Models

A Computable General Equilibrium model is a model of fundamental economic links between incomes of various groups, demand pattern, multisector production structure, and foreign economies. The model incorporates behavioural equations describing the economic actions of agents, and the technological and institutional constraints facing them (Thissen, 1998). In line with Dixon (2006), it is useful to give further insight into the definition of Computable General Equilibrium models by looking at each word that forms its name.

CGE models include explicit specification of the behaviour of several economic agents and captures inter-linkages between those agents, thus these models are *general*. Households maximize utility, while producers either maximize profits or minimize costs and make decisions on consumption and production based on optimizing assumptions. There are also behavioural equations for other agents, such as government, foreign sector participants, etc.

Demand and supply decisions of economic agents define the level of prices and production such that demand is equal to supply for all commodities and factors; markets are in *equilibrium*.

CGE models are solved using special software and produce numerical results, so they are *computable*.

CGE models can be used for real-world applications with actual input data and relevant output. This feature makes the CGE method extremely useful for policy analysis of many issues, including changes in trade regime, tax reform, agricultural policy, regional development, etc. Because of this, such a model is also called an Applied General Equilibrium model.

CGE models have their roots in the Walrasian general equilibrium theory, which was re-formalized in the 1950s. The study of Arrow and Debreu (1954) is one of the fundamental studies which states that the situation exists when all markets are in equilibrium and demand does not exceed supply. In the applied sense, CGE modelling starts with the Leontief input-output analysis described in Leontief (1936, 1941). The central idea of this approach is to consider inter-linkages between different industries and economic agents. The output of each industry is used as an input for other industries or goes to final consumption, making all agents dependent on each other.

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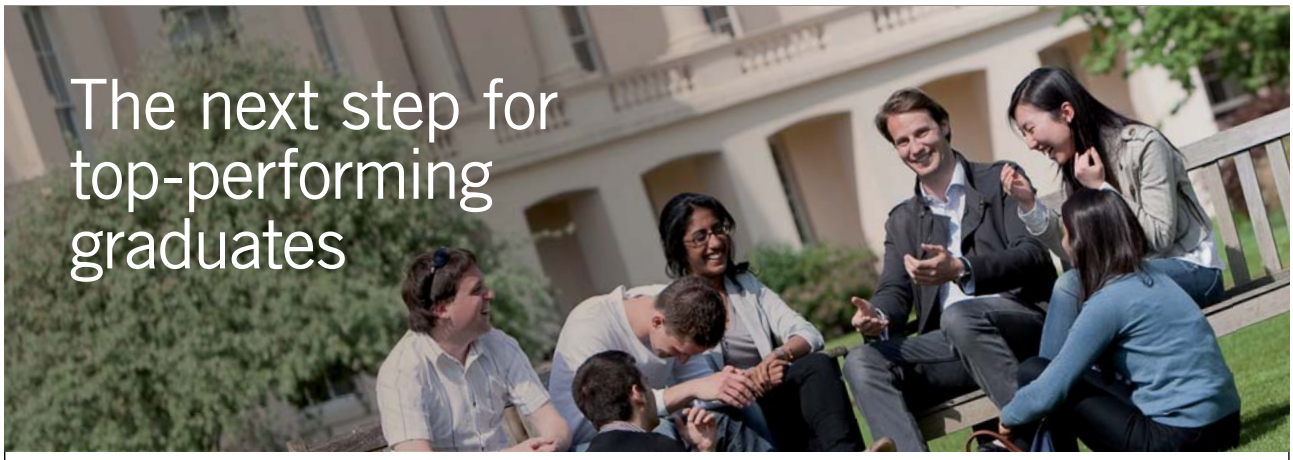
The first empirical CGE models were built by Johansen (1960) and Harberger (1962). Johansen used a model with 20 cost-minimizing production sectors and utility-maximizing consumer to identify sources of economic growth in Norway. Harberger built a two-sector model to investigate tax policy issues in the USA. Neither author has checked for the presence of multiple equilibrium and the existence of a unique equilibrium near the benchmark equilibrium. A breakthrough in solving a general equilibrium model was reached by Scarf in 1967. He developed an algorithm for the solution of general equilibrium problem which was quite general in its nature. This algorithm assured finding an equilibrium set of prices under the most general conditions and did not require special constraints on specification of the model. Although the algorithm has been substantially augmented since that time, it was a breakthrough in the sense of giving researchers the opportunity to build more detailed and complex models than before.

According to Iqbal *et al.* (2001), for several years following Scarf's advance CGE modelling did not receive much attention. Then, one of the earliest policy-oriented general equilibrium models was devised by Shoven and Whalley (1972), Whalley (1975, 1977), Shoven (1976) who studied different aspects of fiscal reform and Miller and Spencer (1977) with the model of the UK joining the European Economic Community.



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As mentioned earlier, CGE models are being applied to a wide variety of issues and there are several literature surveys on this topic. Thus, Shoven and Whalley (1984) reviewed two issues: applied general equilibrium tax models and models of international trade. de Melo (1988) discussed models for trade policy analysis in developing countries. Nielsen (2003) covered the literature on CGE models of regional and preferential trade agreements. Piermartini and Teh (2005) discussed applications of general equilibrium to trade policy, placing accent on GATT/WTO issues. Decaluwe and Martens (1988) reviewed the peculiarities of modelling developing economies and included 73 applications to 26 countries. Bandara (1991) surveyed CGE modelling of development policies in Least Developed Countries. Pereira and Shoven (1988) surveyed studies of dynamic CGE models of tax policy evaluation. Devarajan (1988) discussed the application of general equilibrium models to energy issues. Bhattacharyya (1996) reviewed CGE studies of energy and environmental issues. Robinson (1991) surveyed "micro-macro" CGE models with financial variables. Kraybill (1993) as well as Partridge and Rickman (1998) reviewed CGE models of regional economies and their application to regional policy issues. In 2004, Partridge updated his review of regional modelling. Kraev (2003) reviewed literature on general equilibrium models of stabilization and adjustment packages. Some other general reviews on CGE literature are by Shoven and Whalley (1992), Dixon and Parmenter (1996), and Ginsburg and Keyzer (1997).

A fundamental principle of Computable General Equilibrium modelling is captured by a circular flow of income in economy; a typical one is presented in Figure 3.1. Households are owners of factors of production (in this case, labour and capital) and receive income from them; additional income is the form of transfers from the government. Households spend their revenues on consumption and taxes and save the rest. The government redistributes income from taxes to transfers, consumption and savings. Domestic savings coupled with foreign savings form the capital market. Household consumption, government consumption and investment all go to the product market, which is made from domestic goods and imports. Producers receive income from domestic sales and exports and spend it on domestic and foreign intermediate consumption as well as factor payments.

Circular flow of income implies three conditions of equilibrium. First of all, for a given commodity a quantity produced is equal to quantity demanded and there is a market clearance. Second, revenues from production of goods are allocated to households as payment for factors of production, to intermediate demand and to government as taxes, thus a condition of zero profit holds. Finally, returns of households from factor endowments are spent on purchases of goods, taxes and savings and there is an income balance.

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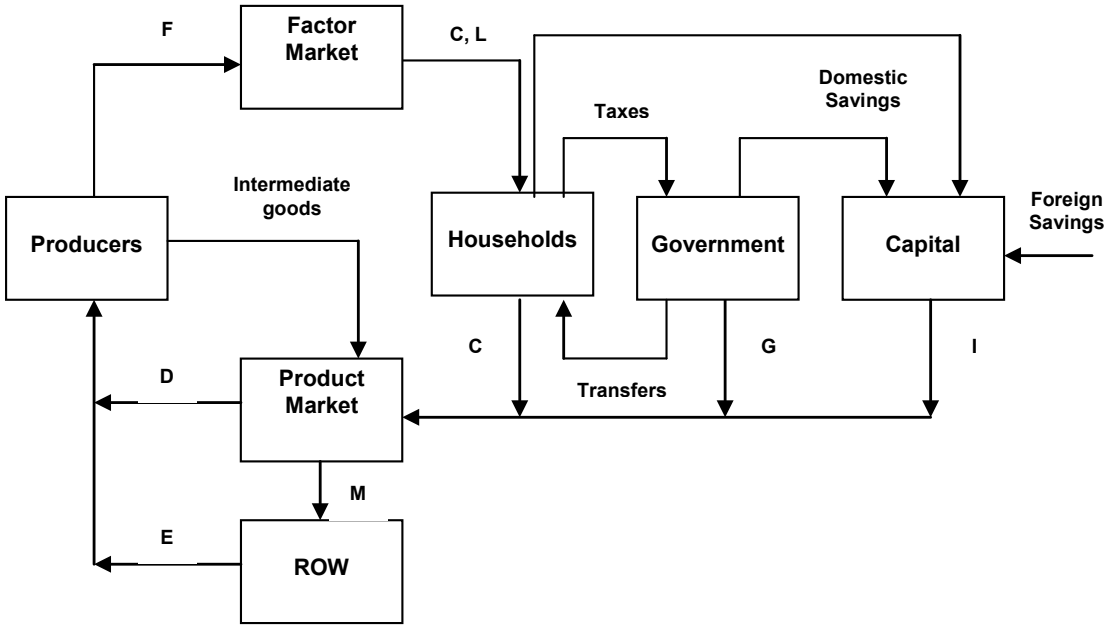

Figure 3.1 Circular Flow of Income
Source: adopted from Piermartini *et al.* (2005)

In practice, circular flow of income is captured by organizing data in the Social Accounting Matrix. Data are represented in a form of matrix where columns show the expenditure of each agent and rows show costs of output; each entry is an income for some agent and expenditure for another. Given that there is a market clearance, income balance and zero profit, the sum of the entries in i^{th} row must be equal to a sum of entries in i^{th} column. Figure A.2 shows an example of Social Accounting Matrix (given in Appendix). Rows and columns contain the same title entries: activities, commodities (one activity can produce more than one commodity), factors of production, enterprises, households, government, capital account and foreign sector. Thus, in the commodities' row intermediate demand, household consumption, government consumption, investment and exports sum up to aggregate demand on a given commodity. In the commodities' column, gross domestic output and imports constitute the aggregate supply of a commodity. Aggregate demand is equal to aggregated supply for each commodity. Household income is the sum of income from factors of production, transfers from government and foreign remittances. Expenditure is directed at consumption, taxes, savings and transfers abroad. The same logic is applied to receipts and expenditure in other rows and columns.

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Building a CGE model usually requires undertaking several steps:

1. Clearly define the topic of the model. This stage is very important, since other steps, such as data aggregation or choice of functional forms, may be subordinated to the issue of investigation.
2. Build analytically consistent mathematical model.
3. Chose functional forms for production, transformation, and utility functions; specify constraints.
4. Collect data and construct consistent Social Accounting Matrix. Missing data have to be calibrated.
5. Write a code in software. This usually involves software for optimizing systems of non-linear equations. The most widely used are GAMS (General Algebraic Modelling System), GEMPACK (General Equilibrium Modelling PACKage), HERCULES.
6. Benchmark simulation. The model should be consistent and reproduce the input data.
7. Counter-factual experiments.

There are several classifications of CGE models, based on their theoretical background, historical development and modelling technique.

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First, a distinction is made according to the theoretical schools of general equilibrium modelling between neoclassical and structuralist models. Neoclassical models, also called "Walrasian" by Thissen (1998) and "fundamental" by Robinson (2003), have their roots in the Walrasian model of competitive economy and Solow's model of economic growth. The purpose of these models is to analyze the effect of exogenous shocks on optimal allocation of resources, efficiency and welfare. A distinguishing feature of these models is sound theoretical foundations; any attempt to step aside from the theoretical background or to add macro features is considered to be corrupting the model. As was argued by Willenbockel (1994) and Bergman (1990), neoclassical models do not try to represent actual economy, but instead try to construct logical framework for analyzing policy changes. In practice, neoclassical models assume full capacity utilization, full employment and prices determined by marginal productivity. As a result of full employment, adjustment is made through the reallocation of labour from unproductive sectors to productive ones without considerable change in output. According to Robinson (2003), during the last decade neoclassical models have tended to shift away from strict theoretical regulations and include macro features.

Another type of CGE models, is the structuralist model, originating from the work of Keynes (1936), Kaldor (1957), Kalecki (1971) and lately analyzed by Taylor(1990, 1991). The prime idea of these models is to capture institutional specifics of the economy under consideration. In contrast to neoclassical models which focus on resource allocation, structuralist models aim to study income distribution, sectoral growth, trade balance changes, etc. This branch of models may use *ad-hoc* estimates and trade off theoretical strictness for empirical relevance. According to Taylor (1991), structuralist models share some common features: Economic actors, such as state, enterprises, and workers are not price takers and can influence prices or quantity changes. There is no assumption of full employment or full capital utilization. The money supply is often endogenous and adjusts to the level of output.

Second, models vary depending on closure rule – the decision on which variables are endogenous and which are exogenous (this concept was first introduced by Sen (1963)). Some of the most widespread closures, listed by Kraev (2003) are the following:

Neoclassical closure assumes that investment is equalized with savings at a level that guarantees full employment. This rule is fundamental for neoclassical models, but rarely used in structuralist models.

In neo-Keynesian closure nominal wages are fixed. This closure is based on the forced saving model by Kaldor. The price level adjusts to bring a balance between savings and investment through a change in income distribution.

The Kaleckian closure keeps returns to labour constant, and share of wages in output is fixed. If the economy reaches full capacity, closure is switched to a forced savings one.

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Loanable funds closure proposes that investment is negatively related to the interest rate, whilst savings are positively related; the interest rate is a balancing variable here.

Pigou/real balance closure assumes that the savings ratio depends on real money supply (the ratio of money supply to the price level). Money supply is exogenous and price level adjusts to bring equilibrium.

Thissen (1998) suggests one more classification according to the determination of the parameters of the model: by calibration or by econometric technique. The vast majority of CGE models use calibration in order to determine parameters. The econometric method was initiated by Jorgenson (1984); in his study he built a general equilibrium model with stochastically specified submodels. Among the advantages of calibration is the relative simplicity of finding the parameters' values. Few data are needed and one set of observations can be used. Calibration uses data for only one period of time, which can be both, an advantage and a disadvantage. In case the economy experiences significant changes in its structure, the calibration method is superior to the econometric one. Econometrics use data for several years, which may not be similar to the year of consideration, while calibration is done with the same data as used in the model. At the same time, if no considerable structural changes have taken place, econometrics can give better estimates. Besides that, econometric models incorporate stochastic disturbances in order to capture the effect of omitted variables and errors, while calibration assumes that this stochastic disturbances term is zero and does not include this information. Finally, econometric models give indicators of accuracy of determined variables, while calibration does not give information on reliability of parameters.

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Like any modelling method, General Equilibrium has its advantages and disadvantages; a discussion of the main ones following the study of Borges (1986) is given below.

Probably the most prominent advantage of CGE models is their solid microeconomic foundation. General Equilibrium models specify the behaviour of agents using standard theoretical approaches to optimization and choice, hence receiving the name "theory with numbers".

Another strength related to theoretical foundation, is the internal consistency of CGE models. These models capture circular income flow in the economy and include all key agents. Then, the behaviour of all agents is systematized and should reach equilibrium in a benchmark scenario. Missing information or inconsistency would be instantly detected.

The possibility of keeping complex interrelations transparent allows having a high degree of data disaggregation and takes into account linkages between different economic agents and sub-agents. Such a feature makes CGE models extremely useful for analysis of complicated policy issues and, as mentioned above, the tool is widely applied for this purpose. CGE models are particularly helpful for studies of structural changes in a given economy: although the total effect of external shock could be relatively small, structural changes can be significant.

A major weakness of CGE methodology is its dependence on choice of model type, functional forms, and parameter specifications. The results of the model can vary: if for example the Cobb-Douglas function is used instead of Constant Elasticity of Substitution, calibration is made with data, which are not inherent to the economy under consideration, or the modeller makes a wrong guess about closure rule.

The assumption of general equilibrium, which is rarely observed in the real world, has its drawbacks as well. First of all, this implies that CGE models do not actually forecast reality, but rather show long-term tendencies in the economy. This limits the usage of CGE models and excludes the possibility of checking the historical development and validity of the model. Second, it does not allow the simulation of some policy decisions. In certain cases, the economy is not in equilibrium and problems such as a stabilization policy can not be modelled by CGE.

CGE models show the long-term consequences of external shock and demonstrate results as if an economy immediately adjusts to it. Thus, CGE methodology is not useful for studying the adjustment process and costs associated with it, although for some policy decisions transition is very crucial and even may be more important than long-term equilibrium.

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3.2 Modelling GATT/WTO with CGE

The first widespread application of CGE models for studying GATT/WTO issues was modelling different aspects of the Uruguay Round. This Round was launched in 1986, lasted more than seven years and resulted in the creation of the WTO. Beyond the traditional GATT topic of trade in goods, the WTO included much broader issues, such as trade in services, intellectual property, Dispute Settlement, Trade Policy Review Mechanism. Some of the CGE studies of the Uruguay Round are described in Table 3.1.

Publications	Data/ Evaluation	Model Structure	Sectors Liberalized	Results
Brown, Deardoff, Fox and Stern (1996)	Data and evaluation at 1990	• Michigan model • 29 sectors • 8 regions • Perfect competition, CRS, Armington elasticities in agriculture • Monopolistic competition and IRS in manufacturing • Static	• Industrial tariffs cut according to schedule. Multi-Fibre Agreement (MFA) not covered. • Agriculture tariffs including NTB-equivalents cut according to commitments • Services: NTBs cut by 25 per cent	• GDP growth: USA 0.9%, EU 0.9%, Japan 1.4%, Australia and New Zealand 3.6%, Mexico 2.8%, emerging Asian countries 3.6%, ROW 1%
Francois, Mc Donald and Nordstrom (1996)	Data version 1992	• GTAP model • 19 sectors • 13 regions • Model 1: CRS, perfect competition • Model 2: IRS, monopolistic competition • Dynamic model	• Industrial tariffs cut according to schedules, MFA quotas lifted • Agriculture tariff cuts according to commitment, subsidies cut by 36% and 24% in developed and developing countries respectively	• GDP growth: World 0.45% (Model 1) 0.9% (Model 2) USA 0.6%, EU 0.5%, Japan 0.4%, Australia and New Zealand 0.9%, Latin America 1.9%, East-South Asia 1.8% • Decomposition of welfare effect: 10% from agriculture, 50% textile and clothing, 40% other manufacturing • Trade growth: increase by 6% (Model 1), approximately 15% (Model 2)
Goldin and van der Mensbrugghe (1996)	Data 1985–93 Projections are made for the period 1993–2002	• RUNS model • 20 sectors (15 of which agricultural sectors) • 22 countries • Perfect competition • Static	• Industrial tariffs cut according to schedules • Agricultural reforms: tariffs including NTBs cut according to schedules. Subsidies cut by 36% in OECD and 24% in other countries	• GDP growth: USA 0.1%, EU 0.6%, Japan 0.4%, Australia and New Zealand 0.1%, Upper Income Asia 1.3% • Decomposition of welfare effect: 85% per cent from agriculture
Hertel, Martin, Yanagishima and Dimaranan (1996)	Data 1992, Evaluation 2005	• GTAP model • 10 sectors • 15 regions • CRS, perfect competition, Armington trade elasticities	• Industrial and agricultural tariffs cut according to schedules. MFA quotas are lifted.	• GDP growth: World 0.89%, USA and Canada 0.4%, EU 0.7%, Japan 1.04%, Latin America 3.8% • Trade growth: World 59%, USA and Canada 48%, EU 42%, Japan 22% • Decomposition of welfare effect: agriculture 5%, industrial tariff 81%, MFA 14%

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Publications	Data/ Evaluation	Model Structure	Sectors Liberalized	Results
Harrison, Rutherford and Tarr (1995)	1992 data and evaluation	• GTAP model • 22 sectors • 24 regions • Model 1: CRT, perfect competition, Armington • Model 2: IRT, monopolistic competition intraregional, Armington-based trade • Model 1 both static and dynamic	• Industrial and Agriculture tariff cut according to schedule • Export (domestic) subsidies cut by 36% (20%) and 24% (13%) in developed and developing countries respectively	• GDP growth: World 0.4% (Model 1 static), 0.7% (Model 1 dynamic), 0.42% (Model 2 static) • Model 1 regional results: US 0.4%, EU 0.7%, Japan 0.7%, Latin America 1.7%, South-East Asia 2.5% • Decomposition of welfare effect: Model 1 static: agriculture 68%, industrial tariff 18%, MFA 15% • Model 1 dynamic: agriculture 38%, industrial tariff 49%, MFA 12% • Model 2 static: agriculture 61%, industrial tariff 23%, MFA 17%

Table 3.1 CGE Studies of Uruguay Round

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There are differences in the simulation results of different models, and Piermartini and Teh (2005) proposed the following explanation for such discrepancies: first of all, different models studied different aspects of the Uruguay Round. Some scrutinized general issues, while some focused on specific parts of the Uruguay Round. Hence, the Rural Urban North South (RUNS) model looked at agriculture, and 5 out of 20 sectors included in this model were agricultural ones. Another factor is the degree of regional aggregation. For instance, results differ, depending on whether sub-Saharan Africa was included in the simulation of agricultural reform or not. Model specifications had an important influence on results as well. A key difference across the models is the assumption about market structure. Some models assume perfect competition and constant returns to scale, while others assume imperfect competition and increasing returns to scale. Finally, models have different results owing to the assumption about dynamics. Models with fixed capital have lower estimates than those which allow for capital accumulation.

The second large wave of modelling GATT/WTO issues was directed at the Doha Round. It was launched at the Fourth Ministerial Conference in Doha, Qatar, in 2001 and concerns a wide range of issues, especially those of importance for developing countries thus it is called the Doha Development Agenda (DDA). Table A.3 presents some of the studies. Welfare gains differ across models as well and range from USD 170 bn in the OECD model to over USD 2000 bn in the outlying model of Brown, Deardoff and Stern, but tend to predict approximately USD 250 bn gains on average. According to Piermartini and Teh (2005), there are five factors influencing results: baseline data and level of protection; assumption about nature of the models (whether they assume perfect or imperfect competition); assumption about dynamics; the depth of liberalization (full or partial); and scope of liberalization (whether services and trade facilitation are included or not).

A large number of CGE studies was devoted to examining individual countries in the context of GATT/WTO, in particular accession to this organization. Probably the greatest efforts of the modellers were directed at examining China's accession to the WTO. Studies were carried out with the help of global trade models, such as GTAP, by Yang (1996) and Hertel (1997), G-CUBED World Model by McKibbin and Tang (1998), PRCGEM by Fan and Zheng (2000), Mai *et al.* (2003), Mayes and Wang (2003) as well as other purpose-built models, such as those of Wang and Li (1998), Zhai and Li (2000), Walsmley et al. (2006). Results differ significantly from 0.5% of GDP growth to more than 10% of GDP growth. This is explained by a wide variety of scenarios and assumptions.

Several models have studied WTO accession of post-USSR transition countries, a description of these is given below.

Jensen, Rutherford and Tarr (2004a) studied the economy-wide and sector-specific effects of Russia's accession to the WTO.

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There are 35 sectors in the model. The underlying input-output table is for 1995 and originally had 22 sectors but was disaggregated. Primary factors of production in all sectors are: unskilled labour, skilled labour and capital. There are three types of sectors: competitive, imperfectly competitive goods sectors and imperfectly competitive business services sectors.

The authors argue that there are four major sources of gains of Russia's membership in the WTO:

1. Improved market access. For metallurgy and chemicals it is assumed to be 1.5% increase in market access, for light and food industry 0.5%.
2. Import tariff reduction. Tariffs are reduced by 50%.
3. Liberalization of barriers to foreign direct investment in services. The authors estimate that ad valorem equivalence of barriers to foreign direct investment is 90% for air transportation, 95% for maritime transportation and 33% for other sectors.
4. Improvement of the investment climate, which is modelled by an increase of capital stock.

Estimated total gains from WTO accession are 7.2% of consumption or 3.3% of GDP in the medium run; liberalization of FDI is the most important source of gains.

This model served as a basis for several more specific applications studying Russia's accession to the WTO, namely: detailed model of liberalization of barriers against FDI in Jensen, Rutherford and Tarr (2004b); telecommunications reform within Russia's accession in Jensen, Rutherford and Tarr (2004c); the poverty effect of accession with very detailed decomposition of households in Rutherford, Tarr and Shepotylo (2005); the regional impact of accession in Rutherford and Tarr (2006).

Jensen and Tarr (2007) have built a model for Kazakhstan. The model has 56 sectors, uses 2003 input-output table and is similar to that of Jensen, Rutherford and Tarr (2004a). Sectors are either competitive or subject to increasing returns to scale.

Scenarios are as follows:

1. Improved market access. Market access is improved by 1.5% for basic metals and 1% for metals.
2. Import tariff reduction. This is modelled by decreasing tariffs by 50%.
3. Reduction in barriers against multinational service providers. Discriminatory tax for multinationals is decreased by 50%.
4. Elimination of local content policies in the oil sector and simultaneous exemption of the VAT for multinational oil company purchases of Kazakhstan inputs. Multinationals are obliged to buy some inputs locally. To model elimination of this policy, local input prices are increased by 20%.
5. Improvement of investment climate. This is modelled by an increase of capital stock.

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Total welfare gains to Kazakhstan are equal to 6.7% of Kazakhstan consumption or 3.7% of GDP. The largest gains come from a reduction in barriers against multinational service providers.

Pavel, Burakovsky, Selitska and Movchan (2004) constructed a model for Ukraine. It has 20 sectors; the input-output table is for 2001. Households are disaggregated into unskilled, skilled and highly skilled; there are seven trading regions: EU15, 10 new members (by 2004), Russia, other CIS, Asia, North America and Rest of the World. The model is static and has a perfect equilibrium structure.

The policy experiments are as follows:

1. Tariff reduction. New tariffs are taken from Ukraine's official proposal to reduce tariffs according to the results of negotiations.
2. Improved market access. Agricultural products will receive a 10% increase in market access to the EU and North America markets; steel products 5% to the same markets and chemicals 1% to all markets.
3. Adjustment of domestic taxation. All direct subsidies are eliminated; direct taxes are set at 5%.

Total gains from Ukraine's accession to the WTO are a 3% increase of consumption, GDP increases by 1.9%, exports and imports growing by approximately 14% each.

Pavel and Tochitskaya (2004) analyzed the economic impact of Belarus' accession to the WTO. They built a CGE model with 23 sectors based on the 2001 input-output table. It has constant return to scale and perfect competition. The external sector is divided into CIS countries and all others.

The authors take into account the dependence of Belarus' economy on imported gas and model four sets of policy simulations:

1. Increased price for gas imports by 25%.
2. Tariff reduction. Tariffs are assumed to decrease by 60% (there is no specific information about Belarus' WTO commitments).
3. Improved market access. Exports of chemical products obtain a 10% increase of access to non-CIS markets.
4. Domestic tax reform. The direct taxes on all activities were set to 5%. For agriculture, a 5% direct subsidy was maintained. A VAT at equal tax rates without any privileges was set as the only indirect tax on commodities. All export taxes were reduced by 50%.

The authors estimate that increased prices for imported gas will have a negative effect: welfare will drop by 1.5% of consumption and GDP will decrease by 1.2%. Nevertheless, if all scenarios of WTO accession are taken into account, the Belarusian economy will benefit and consumer welfare will rise by about 1.6% after WTO accession, and GDP will rise by 3.4%.

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4 References

Anderson, K., Dimaran, B., Francois, J., Hertel, T., Hoekman, B. and Martin, W. "The Cost of Rich (and Poor) Country Protection to Developing Countries" Journal of African Economies 10, 3: 227-257, 2003.

Anderson, K., W. Martin and Van Der Mensbrugghe "Market and Welfare Implications of the Doha Reform Scenarios", Ch. 12 in K. Anderson and W. Martin (eds.) "Agricultural Trade Reform and the Doha Development Agenda" Washington D.C.: World Bank, 2005.

Arrow, Keneth and Gerard Debreu "Existence of an Equilibrium for a Competitive Economy" Econometrica, 22(3), 1954.

Åslund, A. (2005), "The Economic Policy of Ukraine after the Orange Revolution", Eurasian Geography and Economics, Vol. 46, No. 5, pp. 327–53.

Bacchetta, M. "Introduction to the WTO" World Bank NTA and WTO course, World Bank, 2003.

Bagwell, Kyle and Robert Staiger "An Economic Theory of GATT", The American Economic Review, Vol. 89, pp. 215–248, 1999.

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Bagwell, Kyle and Robert Staiger "A Theory of Managed Trade" American Economic Review, Vol. 80(4), pp. 779–795, 1990.

Bagwell, Kyle and Robert Staiger "Reciprocal Trade Liberalization" NBER Working Paper No. 5488, 1996.

Bagwell, Kyle and Robert W. Staiger "The Role of Export Subsidies when Product Quality is Unkonown" Journal of International Economics 27, 1989.

Bagwell, Kyle and Staiger, Robert "Economic Theory and the Interpretation of GATT/WTO" The American Economist, Fall, 2003.

Bagwell, Kyle and Staiger, Robert "GATT-Think" NBER Working Paper No. 8005, 2000.

Bandara, J.S. "Computable General Equilibrium Models for Development Policy Analysis in LDCs." Journal of Economic Survey, 1991.

Bergman, L. "The development of Computable General Equilibrium Modeling" in Bergman, L. and Zalai, E. (eds) "General Equilibrium Modelling and Economic Policy Analysis" Basil Blackwell, Oxford, 1990.

Bhagwati, J.N. "Anatomy and Consequences of Exchange Control Regimes", New York: Ballinger Publishing, 1978.

Bhagwati, J.N. "Free Trade: Old and New Challenges", Economic Journal, Vol.104, No.423, pp. 231–46, 1994.

Bhagwati, J.N. "Investing Abroad: Esmée Fairbairn Lecture", Lancaster: Lancaster University Press, 1985.

Bhattacharyya, S.C. "Applied General Equilibrium Models for Energy Studies: A Survey." Energy Economics, 1996.

Bickerdike, C.F. "The Theory of Incipient Taxes" Economic Journal, vol XVI., 1906.

Boltuck, R. and R.E. Litan "Down in the Dumps: Administration of the Unfair Trade Laws" Washington, D.C.: Brookings, 1991.

Bown, Chad "The Economics of Trade Disputes, the GATT's Article XXIII, and the WTO's Dispute Settlement Understanding" Economics & Politics 14 (3), 283–323, 2002.

Download free eBooks at bookboon.com

Borges, Antonio "Applied General Equilibrium Models: An Assessment of Their Usefulness for Policy Analysis" OECD Economic Studies, 1986.

Braga, Carlos A. Primo and Fink, Carsten "The Relationship Between Intellectual Property Rights and Foreign Direct Investment" Duke Journal of Comparative and International Law, Vol. 9, 1998.

Brainard, L. "A Simple Theory of Multinational Corporations and Trade With a Trade-off Between Proximity and Concentration, NBER Working Paper #4269, 1993.

Brecher, R.A. and Carlos F. Diaz Alejandro "Tariffs, Foreign Capital and Immiserizing Growth', Journal of International Economics, Vol. 7, No. 3, pp. 317–22, 1977.

Brecher, R.A. and R. Findlay "Tariff, Foreign Capital and National Welfare with Sector-Specific Factors", Journal of International Economics, Vol. 14, No. 3, pp. 277–88, 1983.

Brown, D.K., Deardorff, A.V. and Stern, R.M. "Multilateral, Regional and Bilateral Trade Policy Options for the United States and Japan" The World Economy, 26, 6: 803-828, 2003.

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Brown, D.K., Deardorff, A.V., Fox, A.K. and Stern, R.M. "The Liberalization of Services Trade: Potential Impacts in the Aftermath of the Uruguay Round" in W. Martin and L.A. Winters (eds.) "The Uruguay Round and the Developing Countries", New York: Cambridge University Press, 1996.

Burakovsky, I., F. Pavel and I. Eremenko "Which Priority for Ukraine's Trade Policy? "Single Economic Space" (SES) vs. World Trade Organization (WTO)" Institute for Economic Research, Policy Paper T14, 2003.

Caplin, A. and K. Krishna "Tariffs and the Most Favoured Nation Clause: A Game Theoretic Approach" Seoul Journal of Economics 1, 1988.

Carr, D.; Markusen, J. and Maskus, K. "Estimating the Knowledge-Capital Model of the Multinational Enterprise", The American Economic Review, 91/3, 693-708, 2001.

Cline, W.R. "Trade Policy and Poverty" Washington, D. C.: Institute for International Economics, 2004.

Coase, Ronald. "The Nature of the Firm", Economica, Vol. 4, No. 16, pp. 386–405, 1937.

Cooper, William H. "Russia's Accession to the WTO" U.S. Congressional Research Service Report for Congress RL31979, 2006.

de Melo, J. "Computable General Equilibrium Models for Trade Policy Analysis in Developing Countries: A Survey." Journal of Policy Modeling, 1988.

Decaluwe, B., and A. Martens "CGE Modeling and Developing Economies: A Concise Empirical Survey of 73 Application to 26 Countries." Journal of Policy Modeling, 1988.

Deutsche Bank Research (2005), "Ukraine: The Long Road West", Current Issues, Deutsche Bank, Frankfurt, 27 May.

Devarajan, S. "Natural Resources and Taxation in Computable General Equilibrium Models of Developing Countries." Journal of Policy Modelling, 1988.

Devarajan, S., J.D. Lewis, S. Robinson, P. Sinko "Simple General Equilibrium Modeling". In: Francois, J.F. and K.A. Reinert (eds.): "Applied Methods for Trade Policy Analysis – A Handbook" Cambridge University Press, 1994.

Dixit, Avinash "Strategic Aspects of Trade Policy" in Truman F. Bewley, ed., Advances in Economic Theory: Fifth World Congress, Cambridge University Press: New York, 1987.

Download free eBooks at bookboon.com

Dixon, Peter "Evidence-based Trade Policy Decision Making in Australia and the Development of Computable General Equilibrium Modeling" COPS Working Paper # C-163, 2006.

Dixon, P.B., and B.R. Paramenter "Computable General Equilibrium Modeling." In H.M. Amman, D. A. Kendrick, and J. Rust (eds) Handbook of Computational Economics, Vol.1. North-Holland, New York, 1996.

Downs, Anthony "An Economic Theory of Democracy" Washington: Brookings, 1957.

Dunning, J. "Towards an Eclectic Theory of International Production: Some Empirical Tests", Journal of International Business Studies, 11/1, pp. 9–31, 1980

Economist Intelligence Unit "Ukraine. Country Report" April 2010.

Edgeworth, F.Y. "The Theory of International Values." Economic Journal, 4, pp. 35–50, March 1894.

ESCAP (United Nations Economic and Social Commission for Asia and the Pacific) "Issues in Accession to The WTO for Economies on Transition in Caucasus and Central Asia: an Overview" ST/ESCAP/2160, 2001.

Etheir, Wilfred J. "The Theory of Trade Policy and Trade Agreements: A Critique" Penn Institute for Economic Research, Working Paper 06-013, 2006.

Fan, M. and Zheng, Y. "The Impact of China's Trade Liberalisation for WTO Accession: A Computable General Equilibrium Analysis," mimeo, Institute of Quantitative and Technical Economics, Chinese Academy of Social Sciences, 2000.

Feenstra, Robert and Jagdish Bhagwati "Tariff Seeking and the Efficient Tariff" in Bhagwati, Jagdish, ed., Import Competition and Response, University of Chicago Press: Chicago, 1982.

Forte, Rosa "The Relationship Between Foreign Direct Investment and International Trade. Substitution or Complementarity? A Survey." CETE Working Paper #140, 2004.

Francois, J F., McDonald, B. and Nordstrom, H. "The Uruguay Round: A Numerically-based Qualitative Assessment" in W. Martin and L.A. Winters (eds.) "The Uruguay Round and the Developing Economies", New York: Cambridge University Press, 1996.

Francois, J., Van Meijl, H. and Van Tongeren, F. "Trade Liberalization and Developing Countries under the Doha Round" CEPR Discussion Paper No. 4032, 2003.

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GATT (1), Marrakesh Ministerial Meeting, "Agreement Establishing The World Trade Organization, Marrakesh Declaration of 15 April 1994", www.wto.org, 1994.

Ginsburgh, V., and M. Keyzer "The Structure of Applied General Equilibrium Models." Cambridge: MIT Press, 1997.

Goldin, I. and Van Der Mensbrugghe, D. "Assessing Agricultural Tariffication under the Uruguay Round" in W. Martin and L.A. Winters (eds.) "The Uruguay Round and the Developing Economies", New York: Cambridge University Press, 1996.

Grossman, Gene M. and Elhanan Helpman "Interest Groups and Trade Policy" Princeton: Princeton University Press, 2002.

Grossman, Gene M. and Elhanan Helpman "Protection for Sale" The American Economic Review, Vol. 84, No. 4, pp. 833–850, 1984.

Gruenspecht, Howard K. "Dumping and Dynamic Competition" Journal of International Economics, 25, pp. 225–248, 1988.

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Harberger, Arnold C. "The Incidence of the Corporate Income Tax" Journal of Political Economy, 70 (3), 1962.

Harrison, G.W., Tarr, D. and Rutherford, T.F. "Quantifying the Outcome of the Uruguay Round" Finance & Development 32, 4: 38–41, 1995.

Helpman, Elhanan "A Simple Theory of International Trade with Multinational Corporations", Journal of Political Economy 92 (3), pp. 451–471, 1984.

Hertel, T., Martin, W., Yanagishima, K., Dimanaran, B. "Liberalizing Manufactures in a Changing World Economy" in W. Martin and L.A. Winters (eds.) "The Uruguay Round and the Developing Economies", New York: Cambridge University Press, 1996.

Hertel, T.W. "Global Trade Analysis: Modelling and Applications" Cambridge University Press, New York and Cambridge, 1997.

Hillman, Ayre and Ursprung, Heinrich W. "Domestic Politics, Foreign Interests, and International Trade Policy" American Economic Review, 78 (4), pp. 729–45, 1988.

Horn, Henrik and Petros C. Mavroidis "The WTO Dispute Settlement System 1995-2004: Some Descriptive Statistics" World Bank, 2006.

Horstmann, Ignatius and Markusen, James "Endogenous Market Structures in International Trade (natura facit saltum)", Journal of International Economics 32, (1–2), pp. 109–129, 1992.

Hunderford, T.L. "GATT: A Cooperative Equilibrium in a Non-cooperative Trading Regime?" Journal of International Economics, November, 1991.

IER "Ukraine's Trade Report" Dutch Grant No. TF 050270, 2006.

IIPA (International Intellectual Property Rights Alliance) "2006 Special Report. Russian Federation" www.iipa.com, 2006.

Iqbal, Zafar and Rizwana Siddiqui "Critical Review of Literature on Computable General Equilibrium Models" MIMAP Technical Paper # 9, 2001.

Jensen, Jesper and Tarr, David "The Impact of Kazakhstan Accession to the World Trade Organization: A Quantitative Assessment" World Bank Policy Research Working Paper 4142, 2007.

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Jensen, Jesper, Rutherford, Thomas and Tarr, David "Economy-Wide and Sector Effects of Russia's Accession to the WTO" Available at www.worldbank.org/trade/russia-wto, 2004(a).

Jensen, Jesper, Rutherford, Thomas F. and Tarr, David G. "The Impact of Liberalizing Barriers to Foreign Direct Investment in Services: The Case of Russian Accession to the World Trade Organization," Available at www.worldbank.org/trade/russia-wto, 2004(b).

Jensen, Jesper, Rutherford, Thomas and Tarr, David "Telecommunications Reform within Russia's Accession to the WTO" Available at www.worldbank.org/trade/russia-wto, 2004(c).

Johansen, Leif "A Multi-sectoral Study of Economic Growth" Amsterdam: North-Holland, 1960.

Johnson, Harry G. "Optimum Tariffs and Retaliation" Review of Economic Studies, Vol. 21, No. 2, pp. 142–153, 1953–1954.

Jorgenson, D.W. "Econometric Methods for Applied General Equilibrium Analysis" in Scarf, H. and Shoven, J. (eds.) "Applied General Equilibrium Analysis" Cambridge University Press, Cambridge, 1984.

Kaldor, Nicholas "A Note on Tariffs and the Terms of Trade" Economica, New Series, Vol. 7, No. 28. pp. 377–380, 1940.

Kaldor, N. "A Model of Economic Growth" Economic Journal, 67:591–624, 1957.

Kalecki, M. "Selected Essays on the Dynamics of the Capitalist Economy" Cambridge University Press, 1971.

Kaufmann, D., A. Kraay and M. Mastruzzi (2005), Governance Matters IV, Governance Indicators for 1996–2004, World Bank, Washington, D.C.

Kehoe, Timothy J., T.N. Srinivasan and John Whalley (Editors) "Frontiers in Applied General Equilibrium Modeling. In Honor of Herbert Scarf" Cambridge University Press, 2005.

Keynes, J.M. "The General Theory of Employment, Interest and Money" Harcourt, Brace, New York, 1936.

Kovenock, Dan and Marie Thursby "GATT, Dispute Settlement and Cooperation," Economics and Politics, 4, pp. 151–70, 1992.

Kraev, Egor "Modeling Macroeconomic and Distributional Impact of Stabilization and Adjustment Packages: Current Literature and Challenges" CEPA Working Paper 2003–06, 2003.

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Kraybill, D.S. "Computable General Equilibrium Analysis at the Regional Level." In D. M. Otto and T.G. Johnson (eds) Microcomputer-based Input-Output Modeling: Applications to Economic Development. Boulder, Co: Westview Press, 1993.

Laird, S. and A. Yeats Quantitative Methods for Trade-Barriers Analysis. The Macmillan Press, 1990.

Leontief, Wasiliy "Quantitative Input and Output Relations in the Economic Systems of the United States" The Review of Economics and Statistics, 1936.

Leontief, Wasiliy "The Structure of the American Economy" ME Sharpe, 1941.

Lipsey, R.G. and Kelvin Lancaster "The General Theory of Second Best" The Review of Economic Studies, Vol. 24, No. 1. pp. 11–32, 1956–1957.

Ludema, R.D. "International Trade Bargaining and the Most Favoured Nation Clause" Economics and Politics 3, 1991.

Magee, Stephen P., Brock, William A. and Young, Leslie "Black Hole Tariffs and Endogenous Policy Theory: Political Economy in General Equilibrium" Cambridge: Cambridge University Press, 1989.

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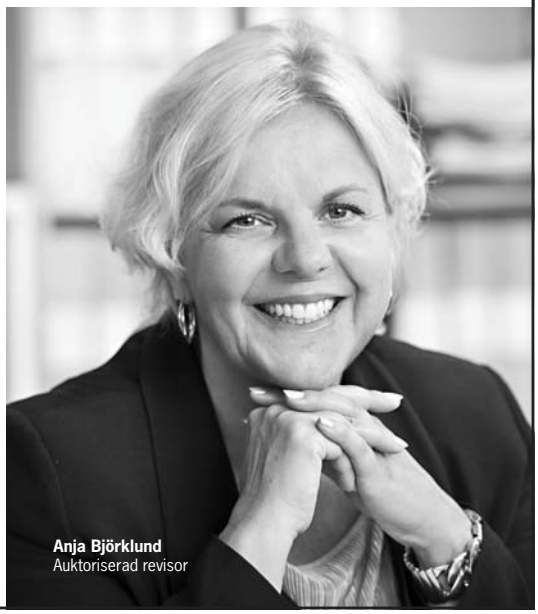

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Maggi, Giovanni "The Role of Multilateral Institutions in International Trade Cooperation" The American Economic Review, Vol. 89, No. 1., pp. 190–214, 1999.

Mai, Y.H., Horridge, M. and Perkins, F. "Estimating the Effects of China's Accession to the World Trade Organisation," paper presented at the 6th Annual Conference on Global Economic Analysis, June 12–14, 2003, Scheveningen, The Hague, Netherlands, 2003.

Mansfield, Edwin "Intellectual Property Protection, Foreign Direct Investment and Technology Transfer" IFC Discussion Paper #19, 1994.

Markusen, J. "Foreign Direct Investment and Trade", CIES Policy Discussion Paper #0019, 2000.

Markusen, J. "Trade Versus Investment Liberalization", NBER Working Paper #6231, 1997.

Markusen, J., Venables, A., Konan, D. and Zhang, K. "A Unified Treatment of Horizontal Direct Investment, Vertical Direct Investment, and the Pattern of Trade in Goods and Services", NBER Working Paper #5696, 1996.

Maskus, Keith E. "Intellectual Property Rights and Foreign Direct Investment" Centre for International Economic Studies Working Paper No. 22, 2000.

Matsuyama, Kiminori "Perfect Equilibria in a Trade Liberalization Game," American Economic Review, pp. 480–92, June 1990.

Mayer, Wolfgang "Endogenous Tariff Formation" American Economic Review, Vol. 47, pp. 970–985, 1984.

Mayer, Wolfgang "Optimal Pursuit of Safeguard Actions Over Time," in Alan Deardorff and Robert Stern, eds., Analytical and Negotiating Issues in the Global Trading System, University of Michigan Press: Ann Arbor, 1994.

Mayer, Wolfgang "Theoretical Considerations on Negotiated Tariff Adjustments", Oxford Economic Papers, Vol. 33, pp. 135–153, 1981.

Mayes, D. and Wang J. "China after WTO Membership – A CGE Analysis of the Impact of Trade Liberalisation" paper prepared for UNU/WIDER Research Programme: "The Impact of the WTO Agreement on Low Income Countries", 2003.

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McKibbin, W.J. and Tang, K.K. "The Global Economic Impacts of Trade and Financial Reform in China" Brookings Discussion Paper in International Economics No.137, Brookings Institution, Washington, D.C. and World Economy, Vol. 22, 455–476, 1999.

Michalopoulos, Constantine "WTO Accession for Countries in Transition" The World Bank, Policy Research Working Paper No. 1934, 1998.

Mill, John Stuart "Essays on Some Unsettled Questions of Political Economy" London: Parker, 1844.

Miller, M.H., and J.E. Spencer "The Static Economic Effects of the UK Joining the EEC: A General Equilibrium Approach." The Review of Economic Studies, 1977.

Movchan, Veronica "Influence of Tariffs and Non-Tariff Barriers on Ukraine's Import: Would the WTO Membership Make Change?" Paper presented at the ETSG Conference, Nottingham, UK, September 2004.

Mundell, R. "International Trade and Factor Mobility" The American Economic Review, July 1957.

The Ministry of Economy and European Integration of Ukraine, USAID Ukraine WTO Accession Project, IBM Global Services and The Services Group "How does a Country Accede to the WTO?", Kiev, 2004.

Nielsen, Chantal Pohl "Regional and Preferential Trade Agreements: A Literature Review and Identification of Future Steps" Fødevareøkonomisk Institut Report no. 155, 2003.

OECD "The Doha Development Agenda: Welfare Gains from Further Multilateral Trade Liberalization with Respect to Tariffs" TD/TC/WP(2003)10/FINAL, Paris: OECD, 2003.

Partridge, M.D. and D.S. Rickman "Regional Computable General Equilibrium Modeling: A Survey and Critical Appraisal." International Regional Science Review, 1998.

Partyridge, Mark D. "CGE Modeling for Regional Economic Development Analysis" Draft Book Chapter for "State-of-the-Art in Regional and Urban Modeling", 2004.

Pavel, Ferdinand and Irina Tochitskaya "The Economic Impact of Belarus' Accession to the WTO: A Quantitative Assessment" IPM Research Center, PP/14/04, 2004.

Pavel, Ferdinand, Burakovsky, Igor, Selitska, Natalya and Movchan, Verkonika "Economic Impact of Ukraine's WTO Accession. First Results From a Computable General Equilibrium Model" IER Working Paper #30, 2004.

Download free eBooks at bookboon.com

Pereira, A.M., and J.B. Shoven "Survey of Dynamic Computational General Equilibrium Models for Tax Policy Evaluation." Journal of Policy Modelling, 1988.

Piermartini, Roberta and Teh, Robert "Demystifying Modeling Methods for Trade Policy" WTO Discussion Paper # 10, 2005.

Prusa, T.J. "Why are so Many Antidumping Petitions Withdrawn?" Journal of International Economics, August 1992.

Robinson, Sherman "Macro Models and Multipliers: Leontief, Stone, Keynes, and CGE Models" International Food Policy Research Institute (IFPRI), 2003.

Rotemberg, J.J. and G. Saloner "A Supergame-Theoretic Model of Price Wars During Booms" American Economic Review 76, June 1986.

Rubinstein, A. "Perfect Equilibrium in a Bargaining Model" Econometrica 50, 1982.

Rutherford, Thomas and Tarr, David "Regional Impacts of Russia's Accession to the WTO" Available at www.worldbank.org/trade/russia-wto, 2006.

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Rutherford, Thomas, Tarr, David and Oleksandr Shepotylo "Poverty Effects of Russia's WTO Accession: Modelling "Real" Households and Endogenous Productivity Effects" World Bank Policy Research Working Paper 3473, 2005.

Scarf, Robert "On the Computation of Equilibrium Prices," in "Ten economic studies in the tradition of Irving Fisher." Ed.: W.J. Fellner NY: Wiley, 1967.

Sen, A.K. "Neo-classical and neo-Keynesian theories of distribution" Economic Record, 39:54–64, 1963

Shoven, J.B. "The Incidence and Efficiency Effects of Taxes on Income from Capital." Journal of Political Economy, 1976.

Shoven, J.B. and J. Whalley "A General Equilibrium Calculation of the Effects of Differential Taxation of Income from Capital in the US." Journal of Public Economics, 1972.

Shoven, J.B. and J. Whalley "Applied General Equilibrium models of Taxation and International: An Introduction and Survey." Journal of Economic Literature, 1984.

Shoven, J.B. and J. Whalley "Applying General Equilibrium." Cambridge: The University Press, 1992.

Staiger Robert W. and F.A. Wolak "The Effect of Domestic Antidumping Law in the Presence of Foreign Monopoly" Journal of International Economics, May 1992.

Staiger, R. "International Rules and Institutions for Trade Policy" NBER Working Paper No. 4962, 1994.

Stigler, George J. "the Theory of Economic Regulation" Bell Journal of Economics, 2 (1), pp. 359–65, 1971.

Suranovic, Steve *et al.* "A Three-Year Review of the World Trade Organization" The George Washington University, 1998

Szabo, A. Development of the SME sector in the Visegrad Countries. UN Economic Commission for Europe; Russian SME Resource Centre www.docs.rcsme/rus/RC/Statistics, 2000.

Taylor, L. (editor) "Socially Relevant Policy Analysis – Structuralist Computable General Equilibrium Models for the Developing World" Massachusetts Institute of Technology, 1990.

Taylor, L. "Income Distribution, Inflation, and Growth – Lectures on Structuralist Macroeconomic Theory" Massachusetts Institute of Technology, 1991.

Download free eBooks at bookboon.com

Thissen, Mark "A Classification of Empirical CGE Modeling" SOM Research Report 99C01, 1998.

Torrens, Robert "Letters on Commercial Policy" London: Longman, 1833.

Transparency International Corruption Perceptions Index (CPI), 2005 www.transparency.org.

UN Economic Commission for Europe's Common European Economic Survey www.unece.org.

UNCTAD "Back to Basics: Market Access Issues in the Doha Agenda" Geneva: UNCTAD, 2003.

Walmsley, T.L. and Hertel, T.W. and Ianchovichina, E. "Assessing the Impact of China's WTO Accession on Foreign Investment" Pacific Economic Review, Vol. 11, No. 3, pp. 315-339, October 2006.

Wang, Z. and Li, S. "The Global and Domestic Impact of China Joining the World Trade Organisation," GTAP Resource No. 286, 1998.

Whalley, J. "A General Equilibrium Assessment of the 1973 UK Tax Reforms." Economia, 1975.

Whalley, J. "The United Kingdom Tax System, 1968-1970: Some Fixed Point Indications of its Economic Impact." Econometrica, 1977.

Whalley, J. "Trade Liberalization among Major World Trading Areas" The MIT Press, 1985.

Willenbockel, D. "The Computable General Equilibrium Approach under Perfect Competition" Applied General Equilibrium Modeling; Imperfect Competition and European Integration, Wiley, Chichester U.K., 1994.

World Bank Ukraine Trade Policy Study Report 29684-UA, 2004.

World Trade Organization, Information and Media Relations Division "Understanding the WTO", Geneva, 2005.

WTO, WT/ACC/10 "Technical Note on the Accession Process", 2001.

Yang, Y. "China's WTO Membership: What's at Stake?" World Economy, Vol. 19, 661–682, 1996.

Zhai, F. and Li, S. "China's WTO Accession and Implications for Its Regional Economies," manuscript, Development Research Centre, State Council, China, 2000.

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5 Endnotes

1. General Agreement on Tariffs and Trade 1994, Article I.
2. Here lower subscript *NT* denotes "No Tariff", *WT* "With Tariff"; upper subscripts are *W* for "World", *H* for "Home" and *F* for "Foreign".

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Table A.1. WTO Commitments of Transition Countries

Country	Year of accession	Commitments concerning agricultural products		Commitments concerning non-agricultural products		Total Aggregated Measurement of Support to agriculture	Export agriculture subsidies
		Import tariff rate, %	Transition period	Import tariff rate, %	Transition period		
Bulgaria	1996	34.9	6 years	12.6	15 years	5% of agricultural production;	Nil since year 2000
Mongolia	1997	18.4	No	20.0	No	10% of agricultural production	Nil
Latvia	1999	33.6	9 years	9.3	9 years	5% of agricultural production	Nil
Estonia	1999	17.7	5 years	6.6	6 years	5% of agricultural production	Nil
Lithuania	2001	15.6	8 years	8.2	4 years	5% of agricultural production	Nil
Georgia	2000	12.1	5 years	5.8	5 years	10% of agricultural production	Nil
Moldova	2001	12.4	4 years	5.7	4 years	10% of agricultural production	Nil
Kyrgyzstan	1998	11.7	No	6.7	7 years	5% of agricultural production	Nil
Albania	2000	10.6	7 years	6.0	9 years	10% of agricultural production	Nil
Croatia	2000	10.4	5 years	5.0	5 years	5% of agricultural production	Nil

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Table A.2. Example of Social Accounting Matrix

	Activities	Commodities	Factors	Enterprises	Households	Government	Capital Account	ROW	Total
Activities		Gross output							*Total sales*
Commodities	Intermediate demand				Household consumption	Government consumption	Investment	Exports	*Aggregate demand*
Factors	Value added							Factor service exports	*Factor income*
Enterprises			Gross profits			Transfers			*Enterprise income*
Households			Wages	Distributed profits		Transfers		Foreign remittances	*Household income*
Government	Indirect taxes	Tariffs	Factor taxes	Enterprise taxes	Direct taxes				*Government revenues*
Capital Account				Retained earnings	Household savings	Government savings		Cap. trans. from abroad	*Savings*
ROW		Imports	Factor service imports		Transfers abroad	Transfers abroad	Capital transfers abroad		*Foreign exchange payments*
Total	*Total costs*	*Aggregate supply*	*Factor expenditures*	*Enterprise expenditures*	*Household expenditures*	*Government expenditures*	*Investment*	*Foreign exchange receipts*	

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Table A.3. CGE Studies of the Doha Round

Publications	Data	Baseline	Model Description	Measures Liberalized	Simulation Scenarios
Anderson, Martin and van der Mensbrugghe (2005)	GTAP Database version 6	2015, extrapolated from 2001	• LINKAGE model • 25 sectors • 27 regions • recursive dynamic model • Constant returns to scale and perfect competition	• Agriculture - Tariffs - Export subsidies - Domestic subsidies (cut by 28% for the US, 18% for Norway, 16% for the EU and 10% for Australia) • Manufacturing goods - Tariffs	(i) elimination of all merchandise trade barriers over the 2005-2010 period (ii) a progressive reduction formula with a marginal agricultural tariff rate reduction of 45, 70 and 75 % cuts for developed countries; 35, 40, 50, and 60 % for developing countries for the respective bands. No cut for LDCs. (iii) adds to Scenario (ii) the "Sensitive Products" option (2% of agricultural tariff lines for developed countries and 4% for developing countries, subject to just a 15% cut) (iv) adds to Scenario (iii) a tariff cap of 200% for agricultural products (v) add to Scenario (ii) liberalization of non-agricultural products (50% cut of bound rates for developed countries and 33% for developing countries) (vi) like (v) but developing countries also cut bound tariffs by 50%
Anderson, Dimaranan, Francois, Hertel, Hoekman and Martin (2003)	GTAP Database version 4	2005 - extrapolated from 1995 Standard GTAP trade elasticities were doubled given the long-term nature of the simulations.	• Standard GTAP model • 4 sectors • 19 regions • Constant returns to scale and perfect competition	• Agriculture - Tariffs • Manufactured goods - Tariffs	Elimination of all tariffs in agricultural and manufactured goods
Brown, Deardorff and Stern (2003)	GTAP Database version 4	2005 - extrapolated from 1995	• Michigan model • 18 sectors • 20 regions Increasing returns and monopolistic competition in manufactures but	• Agriculture - Domestic subsidies - Export subsidies - Tariffs • Manufactured goods - Tariffs • Services	(i) 33% reduction in agricultural tariffs, production and export subsidies (ii) 33% reduction in manufactured goods tariffs (iii) 33% reduction in services barriers (iv) Scenarios (i)+(ii)+(iii) (v) Global free trade in agricultural and industrial goods and services

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			perfect competition and constant returns in agriculture	- Barriers	
Cline (2004)	GTAP Database version 5	1997 but agricultural tariff data is updated to 1998	• Harrison-Rutherford-Tarr model • 22 sectors • 25 regions • Constant returns to scale and perfect competition	• Agriculture - Tariffs - Export subsidies - Input subsidies • Manufacturing goods - Tariffs - Textile quotas	Complete elimination of tariffs applied to agriculture and manufactures, export subsidies and input subsidies on agriculture, and textile quotas
Francois, van Meijn and van Tongeren (2003)	GTAP Database version 5.2	1997 Protection data is modified using tariffs in WTO IDB and WITS. Services barriers are estimated using a gravity equation	• 17 sectors • 16 regions • Increasing returns and monopolistic competition in manufactures but assumes perfect competition and constant returns in agriculture • Dynamic	• Agriculture - OECD Domestic subsidies - Export subsidies - Tariffs • Manufactured goods - Tariffs • Services - Barrier • Trade facilitation	(i) Linear: 50% reduction in agricultural and manufactured tariffs, export subsidies, OECD domestic support and services barriers. Trading costs are reduced by 1.5% (ii) Swiss: reduction in agricultural and manufactured tariffs is based on the Swiss formula with a coefficient of 25. 50% reduction in OECD domestic support, export subsidies and services barriers. Trading costs are reduced by 1.5% (iii) Complete liberalization and a reduction in trading costs of 3%
OECD (2003)	GTAP Database version 5	1997 but protection data benchmarked to 1998 using data in OECD tariffs database	• Standard GTAP model with perfect competition and constant returns to scale • 10 sectors • 10 regions	• Agricultural - Tariffs • Manufactured goods - Tariffs • Trade facilitation	(i) Linear tariff reduction by all regions - free trade in agricultural and manufactured goods and trade facilitation - free trade only in manufactured goods and trade facilitation - 50% reduction in tariffs on agricultural and manufactured goods and trade facilitation (ii) Differential participation in liberalization - Cuts of 100% and 50% respectively in manufactured and agricultural tariffs by developed countries only and trade facilitation - free trade by developed countries; 50% cut by developing countries; trade facilitation

					(iii) Swiss formula - Swiss formula coefficient of 25 and trade facilitation - Swiss formula coefficient of 15 and trade facilitation - Swiss formula coefficient of 5 and trade facilitation
UNCTAD (2003)	GTAP Database version 5	1997 Modified using TRAINS to take preferences into account	• Standard GTAP model with perfect competition and constant returns to scale • 6 sectors • 2 regions	• Agriculture - Tariffs - Export subsidies	(i) 50% reduction in agricultural tariffs (ii) Elimination of export subsidies in agriculture (iii) 50% reduction in processed agriculture tariffs (tariff escalation)