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Regional and Preferential Trade Agreements:

A Literature Review and Identification of Future Steps

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Abbreviations

ACP	African, Caribbean and Pacific
AGOA	African Growth and Opportunity Act
APEC	Asia Pacific Economic Cooperation
ASEAN	Association of South East Asian Nations
ATPA	Andean Trade Preference Act
CBERA	Caribbean Basin Economic Recovery Act
CBI	Caribbean Basin Initiative
CBTPA	Caribbean Basin Trade and Development Act
CER	Closer Economic Relations Agreement (Australia and New Zealand)
CGE	Computable General Equilibrium
CU	Customs Union
EBA	Everything But Arms
EFTA	European Free Trade Association
FTA	Free Trade Agreement
FTAA	Free Trade Agreement of the Americas
GATT	General Agreement on Trade and Tariffs
GSP	Generalised system of preferences
GTAP	Global Trade Analysis Project
LDC	Least Developed Country
MFN	Most Favoured Nation
NAFTA	North American Free Trade Agreement
PE	Partial Equilibrium
PTA	Preferential Trade Agreement
QUAD	EU, US, Japan and Canada
RTA	Regional Trade Agreement
SACU	Southern African Customs Union
WTO	World Trade Organisation

Preface

Multilateral trade talks collapsed at the fifth WTO ministerial meeting in Cancún, Mexico, in September 2003. Lacking political signals of how to get the talks back on track, negotiations of new regional and bilateral trade deals are already gathering pace. In fact, this renewed emphasis on regional approaches to trade liberalisation represents a continuation of a trend of the 1990s. Today, virtually all countries are members of a bilateral or regional trade agreement or in the process of negotiating membership, and several are members of more than one agreement. Regionalism has become an inherent part of the global trading system.

The OECD countries are party to a large number of regional and bilateral trade agreements. In particular, they are involved in a large number of agreements with developing countries – individually or as groups. In light of the current loss of momentum in the multilateral trade talks that are explicitly aimed at being a *Development Round*, it is worth considering whether the subsequent emphasis on regional agreements is to the benefit or detriment of developing countries. To address this issue, this report reviews the most recent theoretical and empirical literature that assesses the economic impact of preferential trade agreements on developing countries. More specifically, the core task of this research has been to provide an overview of the empirical methods that are being used to analyse preferential trade agreements so as to evaluate the state of the art and to identify areas in need of further research.

This report was commissioned by the OECD and submitted to the Joint Working Party on Agriculture and Trade for its meeting on 25-26 September 2003. The underlying research is moreover an integrated part of the project entitled “WTO Negotiations and Changes in National Agricultural and Trade Policies: Consequences for Developing Countries”, which is carried out by the Agricultural Policy Division at the Danish Research Institute of Food Economics (FØI) in collaboration with the International Food Policy Research Institute (IFPRI) in Washington, D.C. This project is primarily financed by the Royal Danish Ministry of Foreign Affairs, DANIDA, Denmark. Researcher Chantal Pohl Nielsen from the Agricultural Policy Division at FØI has prepared this report. The author has benefited from useful comments on an earlier draft by Research Director Søren E. Frandsen (FØI), staff of the OECD Secretariat, as well as delegates to the Joint Working Party meeting. Finally, Trine V. Jensen and Markus Bjerre, both at FØI, have assisted by compiling the tables in the Appendix.

Danish Research Institute of Food Economics, November 2003

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Executive Summary

The objective of this paper is to provide an overview of the empirical methods that are being used to analyse preferential trade agreements (PTAs) so as to evaluate the state of the art and to identify areas in need of further research. More specifically, the aim is to provide recommendations in defining the scope for future work in this area by the OECD Secretariat. In defining the boundaries of this review, it has been decided to focus on selected agreements between the OECD and developing countries. The following agreements are covered by the survey:

- The Cotonou Agreement between the EU and the ACP countries
- The EU-South Africa free trade agreement
- The Euro-Mediterranean Association Agreements
- The EU-MERCOSUR agreement
- The US Caribbean Basin Economic Recovery Act
- The African Growth and Opportunity Act
- The Caribbean Basin Trade Partnership Act
- The GSP schemes, including the EU's Everything But Arms initiative.

The paper starts by providing an overview of the regional and preferential trade agreements that are currently in force. In terms of geographic concentration, the formation of regional trade agreements has primarily taken place in the Euro-Mediterranean region, yet several recent regional trade agreements involve the Asian and Pacific countries. The large number of preferential trade agreements makes for a complex web of trading relationships across the globe. Indeed, the global trading system can be characterised as a spaghetti bowl of tariff and non-tariff preferences and other increasingly complex regulations defined in the many overlapping agreements. PTAs differ with respect to product coverage, extent of tariff preferences, time frames for implementation, rules of origin, technical standards, safeguard provisions, customs administration rules, etc. Furthermore, several PTAs go beyond trade policy to include provisions on investment, competition, environment, and labour. The OECD countries are involved in preferential trade agreements that range from very shallow forms of integration (e.g. non-reciprocal granting of tariff preferences to developing countries) to very deep forms of integration (e.g. the European Union itself).

Following this overview, the theoretical contributions to the debate about the impact of PTAs are then summarised. Mirroring the development of PTAs in the direction of including elements of deep integration, trade theory is moving from the simple analy-

sis of the removal of tariff barriers within the context of free trade agreements and customs unions, to analysis of the impact of deeper integration initiatives. Traditional trade theory focuses primarily on the static concepts of trade creation, trade diversion and terms-of-trade effects. Newer trade theory is attempting to integrate deep integration elements, i.e. economies of scale, increased competition, “learning by doing”, technology transfers, increased investment opportunities, gains from specialisation, etc. One of the most contentious aspects of the debate about preferential trade agreements concerns the relationship between regionalism and multilateralism. Hence the theory section also discusses how preferential trade agreements may act as building blocks or stumbling blocks on the path to global free trade. Furthermore, domestic policies will influence the realisation of benefits from regional trade liberalisation. In particular, with respect to agriculture, there is an apparent contradiction between the calls for trade liberalisation on the one hand and trade protection and trade-related domestic policies on the other. The bottom line is that economic theory cannot provide clear-cut conclusions, and therefore it is ultimately an empirical issue to determine the net impact of a given PTA.

Hence the remainder of the paper is devoted to surveying the empirical studies of the selected PTAs. The literature is reviewed by following the steps that a researcher conducting an empirical analysis would take, i.e. (i) choice of methodology, (ii) tailoring the chosen model to the specific issue at hand, (iii) data considerations, (iv) construction of scenarios, (v) presentation of results. The most important conclusions can be summarised as follows:

- The welfare impact on participating countries is generally non-negligible and positive, yet small;
- Trade diversion can be an issue, particularly for specific sectors and countries;
- The greatest gains for developing countries lie in liberalising trade in OECD-sensitive products;
- Incorporating deep integration elements generates larger welfare gains;
- Multilateral liberalisation is preferred, but erosion of preferences is an issue;
- OECD agricultural policy reform is also desirable, but erosion of preferences is again an issue.
- Developing countries have a lot to gain from unilateral liberalisation of their own economies.

Based on an evaluation of the existing literature, areas for future research are identified. Irrespective of the choice of methodology, it could be useful to investigate quantitatively the following issues:

- Constraints to full utilisation of preferences by the developing countries, e.g. due to rules of origin;
- Domestic supply and export constraints within developing countries;
- Poverty and distributional consequences of PTAs within developing countries;
- The link between trade and productivity in developing countries;
- The link between trade and investment in developing countries;
- The relevance of other new trade theory issues;
- New roles for OECD donors to compensate developing countries for erosion of preferences;
- The interactions between different PTAs and their impact on the world trading system as a whole.

In terms of defining the scope for future research by the OECD Secretariat, the following recommendations are provided:

- Use global computable general equilibrium (CGE) models that can possibly be linked with partial equilibrium (PE) models, e.g. the OECD AGLINK model;
- Tailor such models to the specific task at hand by adjusting the underlying theory as well as the policy and institutional representations as appropriate;
- Extend the analytical work on the agricultural policies of the OECD member states with studies that describe and analyse the preferential trade agreements in which they participate;
- Contribute to increasing collaboration among relevant international organisations so as to improve the databases that underpin these empirical models, i.e. databases that describe the current global production, trade, and protection structures. E.g. extend the ongoing work on the Agricultural Market Access Database (AMAD) to include PTAs, and improve links between existing databases (e.g. the PSE database) and ongoing modelling efforts;
- Continue to play a central role in designing scenarios to be assessed using such models in collaboration with member country representatives and researchers to ensure that policy-relevant analyses are generated;
- Continue communicating the results of such analyses to policy makers.

1. Introduction

Since the early 1990s there has been a dramatic increase in the creation of new regional and preferential trade agreements as well as a revival of many existing agreements. Today, virtually all countries are members of a regional trade agreement or in the process of negotiating membership, and several are members of more than one agreement. Among the OECD, the EU countries have long been involved in regional trade and integration initiatives, beginning with the formation of the European Community itself in 1958, and by becoming party to a large number of bilateral trade agreements with the Mediterranean countries in the 1970s, the formation of the General System of Preferences (GSP) for developing countries in 1971, the association agreements with the Eastern European countries in the 1990s, and more recently, the Cotonou Agreement with the ACPs and the Everything But Arms initiative for the LDCs. Being dedicated to a multilateral approach to trade liberalisation, countries such as the United States and Japan, on the other hand, have until fairly recently been reluctant about creating regional trade agreements. With the conclusion of the US-Israel free trade agreement in 1985, NAFTA in 1994, the US-Jordan free trade agreement in 2001, and the Japan-Singapore free trade agreement in 2002, however, this reluctance seems to have disappeared. Moreover, both the United States and Japan are currently negotiating new regional agreements such as APEC, the Free Trade Agreement of the Americas (FTAA), and a Japan-Mexico trade agreement.

As these few examples illustrate, new regional trade agreements are not merely between neighbours and between 'equal' trading partners, but stretch across both continents and different levels of economic development. Regionalism has become an inherent part of the global trading system and therefore all countries – members and non-members alike – will be affected by this phenomenon. Understanding the economic implications of regionalism is therefore important. All preferential trade

agreements (PTAs)¹ share the objective of reducing trade barriers between member countries. Yet granting trade preferences to member countries implies at the same time discrimination against non-members. In all simplicity, this is the main reason why the growing interest in forming and joining PTAs is controversial. What complicates matters further is the fact that this new regionalism is taking place in an environment where efforts are also being devoted to further liberalising international trade at the multilateral, non-discriminatory, level in the form of WTO negotiations. Concerns are being voiced that regional trade agreements will divert attention away from the multilateral negotiation tables. Furthermore, particularly from the perspective of developing countries, there are also concerns about the erosion of preferences that multilateral trade liberalisation will entail. Also, there is a danger that gaining access to another country's market through regional trade arrangements is seen as the panacea for a developing country's problems, thereby diverting attention away from the more fundamental need to address the structural and domestic policy constraints underlying their poor economic performance (Stoeckel and Borrell 2001).

While economists agree that global free trade is a desirable goal on the grounds of economic welfare, they disagree about the role that preferential trade agreements play in seeking to achieve this objective. There is a large body of theoretical literature that discusses the expected impact of PTAs. Depending on the analytical set up (e.g. the use of small or large country assumptions), traditional trade theory points in favour or disfavour of PTAs depending on whether or not trade creation exceeds trade diversion, and what happens to the terms-of-trade. These effects, however, are only part of

¹ With respect to the use of terminology in the literature, reference is often made to the concepts of 'preferential trade agreements (PTAs)', 'regional trade agreements (RTAs)', and 'regional integration agreements (RIAs)'. As will be discussed in the text, many regional agreements today often go beyond commodity trade. They extend into areas such as trade in services, foreign direct investment, domestic policies, domestic regulation, national and international standards, etc., thus explaining the use of the term 'integration agreements'. Furthermore, as already mentioned, many trade agreements are between countries that are not necessarily geographically contiguous, i.e. they are not necessarily 'regional agreements' in a narrow sense. In this paper the term 'preferential trade agreement (PTA)' will be used to include trade agreements with differing degrees of preferential treatment granted to members relative to non-members – agreements that may be reciprocal or non-reciprocal. Notwithstanding the above considerations, the term RTA will be used interchangeably with the term PTA since much of the discussion concerns the relationship between *regionalism* and multilateralism. A clear distinction, however, will be made between PTAs, free trade areas (FTAs) and customs unions (CUs). A PTA is a trade agreement wherein trade barriers between partners are less than the (non-common) barriers facing non-members. An FTA is a trade agreement with no internal barriers and non-common barriers facing non-members. A CU is a FTA with common barriers facing non-members. Note that, in practice, several so-called 'free trade agreements' should in fact more correctly be termed 'preferential trade agreements' because they do not provide for completely free trade between partners.

the story. Increased trade is often associated with increased investment opportunities, enhanced productivity, sharpened competition, finer specialisation, increased utilisation of scale economies, etc. Moreover, trade liberalisation takes place in a second-best world characterised by imperfect competition and domestic policy distortions. Hence, newer trade theory attempts to enhance the understanding of the impact of PTAs on the global economy by incorporating such issues in the analytical models. The bottom line of the theoretical debate, however, is that there are very few clear-cut conclusions. The outcome depends on the precise context. Hence, it is ultimately an empirical question whether the creation of a PTA enhances welfare, whether trade is diverted from non-members, and whether PTAs support the ultimate goal of global free trade.

The objective of this paper is to provide an overview of the empirical methods that are being used to assess preferential trade agreements so as to evaluate the state of the art and to identify areas in need of further research. More specifically, the aim is to provide recommendations in defining the scope for future work in this area by the OECD Secretariat. The literature on this topic is extensive and growing. In defining the boundaries of this review, it has been decided to focus on selected agreements between the OECD and developing countries. More specifically, the following agreements will be covered by the survey:

- The Cotonou Agreement between the EU and the ACP countries
- The EU-South Africa free trade agreement
- The Euro-Mediterranean² Association Agreements
- The EU-MERCOSUR agreement
- The US Caribbean Basin Economic Recovery Act (CBERA)³
- The African Growth and Opportunity Act (AGOA)⁴
- The Caribbean Basin Trade Partnership Act (CBTPA)
- The GSP schemes, including the EU's Everything But Arms (EBA) initiative.

Most of these are non-reciprocal agreements (i.e. Cotonou, CBERA, AGOA, CBTPA, EBA and the GSP). The others are reciprocal (i.e. EU-South Africa, Euro-Med, EU-Mercosur) and reflect the most recent tendency, namely that the non-reciprocal agreements are moving in the direction of reciprocity (e.g. the trade negotiations

² Euro-Med for short.

³ This agreement is also known informally as the Caribbean Basin Initiative (CBI).

⁴ The AGOA is Title 1 and the Caribbean Basin Trade Partnership Act (CBTPA) is Title 2 of the US Trade and Development Act.

within the auspices of the Cotonou Agreement aim for free trade agreements). The scope of this survey is furthermore delineated by including only those studies that are either economy-wide or with an agricultural focus. Studies that highlight trade in manufactured goods (e.g. textiles and clothing) will only be referred to if the research is unique and particularly relevant to the issues discussed here. Finally, the review generally limits itself to studies conducted within the past decade.

The paper is organised as follows. Section 2 provides an overview of the regional and preferential trade agreements that the OECD countries are involved in. Key characteristics of these agreements are identified. The theoretical contributions to the debate about the impact of PTAs are summarised in Section 3. The remainder of the paper is devoted to surveying the empirical studies of the selected PTAs. (The Appendix contains brief summaries of the contents of these selected agreements.) Section 4 reviews the literature by following the steps that a researcher conducting an empirical analysis would take, i.e. (i) choice of methodology, (ii) tailoring the chosen model to the specific issue at hand, (iii) data considerations, (iv) construction of scenarios, (v) presentation of results. Section 5 evaluates the empirical studies and identifies areas in which future research is needed. The final Section 6 concludes.

2. Overview of OECD regional and preferential trade agreements

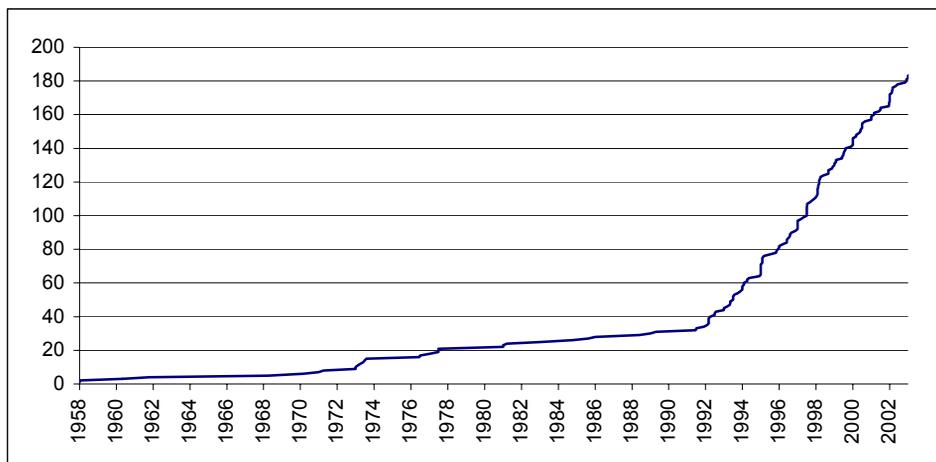
A myriad of agreements - ranging from shallow to deep

Since the formation of the GATT in 1958, the number of regional trade agreements has grown, with a true proliferation in the 1990s, as depicted in Figure 1. OECD countries are party to 131 of the 184 regional trade agreements that are currently in force and notified to the WTO.⁵ Moreover, they are in the process of negotiating several new ones such as APEC and the FTAA. In terms of geographic concentration, the formation of regional trade agreements has primarily taken place in the Euro-Mediterranean region, accounting for more than half of all PTAs currently in force. Although this historic trend seems to be continuing, several recent regional trade agreements (and negotiations hereof) involve the Asian and Pacific countries, which have previously advocated a multilateral approach to trade liberalisation. Another trend is the emergence of preferential trade agreements where each party is a distinct PTA itself, e.g. EU-MERCOSUR and CER-ASEAN, which are both under negotiation.

The vast majority of the 184 regional trade agreements that are currently in force are free trade agreements (127, of which 95 involve OECD countries, e.g. NAFTA and the EU-South Africa agreement) and most of these are bilateral (see Appendix Tables A1 and A2). Relatively few agreements are customs unions (14, of which 10 involve OECD countries, e.g. the EU itself and the EU-Turkey agreement). This is because customs unions, by definition, require the additional, difficult negotiation of a common external tariff schedule. Another observation is that most agreements are restricted to commodity trade, although there are 26 (of which 24 OECD) separate agreements dealing with trade in services.

⁵ During the period 1948-1994, the GATT received 124 notifications of regional trade agreements (relating to trade in goods), and since the creation of the WTO in 1995, over 130 additional agreements covering trade in goods and services have been notified. Not all of these are still in force today, but many of the discontinued agreements have been replaced by redesigned agreements among the same signatories. In addition to the 184 agreements currently in force (as of May 2003), the WTO estimates that an additional 70 are operational although not yet notified. By the end of 2005, if agreements reportedly planned or already under negotiation are concluded, the total number of regional trade agreements in force might well approach 300. Facts about regional trade agreements are available and regularly updated by the WTO on its web site: http://www.wto.org/english/tratop_e/region_e/region_e.htm

Figure 1. Number of regional trade agreements in force*, 1958-2003



* By year of entry into force and as of May 2003.

Source: Based on notification data downloaded on June 6, 2003 from the WTO Secretariat:
http://www.wto.org/english/tratop_e/region_e/region_e.htm

In addition to their involvement in free trade agreements and customs unions, the OECD countries also grant non-reciprocal preferential access to their markets to developing countries. Such agreements are not covered by the general GATT/WTO rules for regional trade agreements (see Box 1). They require special waivers and are therefore not included in the general list of notified regional trade agreements. The US, for example, has the following non-reciprocal preference programmes for different groups of developing countries: the US Generalised System of Preferences (GSP), the US GSP for Least Developed Countries (LDCs), the CBERA (Caribbean Basin Economic Recovery Act), the ATPA (Andean Trade Preference Act), and finally the Trade and Development Act of 2000, which consists of two parts: I. AGOA (African growth and Opportunity Act) and II. The Caribbean Basin Trade Partnership Act (CBTPA). The European Union has the following non-reciprocal programmes: the EU GSP, the EU GSP for LDCs - which has been replaced by the Everything But Arms (EBA) initiative as of 2001, and the Cotonou Agreement for African, Caribbean and Pacific (ACP) countries (formerly the Lomé Convention).

The OECD countries are thus involved in preferential trade agreements that range from very shallow forms of integration (e.g. the non-reciprocal granting of tariff pref-

erences to developing countries through the GSP schemes) to very deep forms of integration (e.g. the European Union whose members seek to achieve an economic and monetary union with associated supranational institutions). In between these extremes are a myriad of agreements that entail more or less comprehensive tariff reduction schemes, removal of non-tariff barriers, liberalisation of factor movements, and other forms of policy integration to facilitate trade.

Box 1. GATT/WTO Rules on Regional Trade Agreements

Members of the WTO are required to notify the trade agreements in which they participate to the Committee on Regional Trade Agreements (CRTA). This is because such arrangements depart from the principle of non-discrimination that forms the cornerstone of the WTO. Members are, however, permitted to enter such arrangements provided they adhere to specific rules. The purpose of these rules is to ensure that regional trade agreements are consistent with the overall goal of promoting trade liberalisation in the world as a whole. There are three sets of rules that permit member countries to enter regional trade arrangements under specific conditions:

(1) Paragraphs 2-4 of Article XXIV of GATT (and clarified in the Understanding on the Interpretation of Article XXIV of the GATT 1994) permit the formation of customs unions and free trade areas covering trade in goods.

(2) The Enabling Clause (i.e. the 1979 Decision on Differential and More Favourable Treatment, Reciprocity and Fuller Participation of Developing Countries) refers to preferential trade agreements with relation to trade in goods between developing countries.

(3) Article V of GATS concerns PTAs in the area of trade in services, for both developed and developing countries.

The essence of Article XXIV is that the formation of regional trade agreements is permitted provided that (1) extra-regional trade barriers are not raised, (2) trade barriers are eliminated on “substantially all” trade, and (3) complete implementation of the agreement is achieved “within a reasonable length of time”. The Enabling Clause permits developing countries to extend preference to one another that need not conform to Article XXIV.

These provisions have been criticised on account of their ambiguity: What is meant by “substantially all” trade? Is this a qualitative (sectoral) or a quantitative (share of trade) concept? Or both? Are across-the-board tariff cuts appropriate? Or can sensitive sectors be left out altogether? Does the concept of “trade barriers” also include non-tariff barriers? Do tariff reductions relate to individual tariff lines or to the tariff schedule as a whole? Should applied, bound, average or weighted tariffs be used? What is understood by a “reasonable length of time”?

An Understanding on the Interpretation of Article XXIV was signed during the Uruguay Round to more clearly define the use of tariff rates and adjustment periods. Tariffs and related charges are thus to be compared “based on an overall assessment of weighted average tariff rates and of customs duties collected.” Implementation periods are to be “not more than ten years, except under exceptional circumstances”. The Understanding does not, however, address the definition of “substantially all trade”, although in the preamble it is recognised that the gains from enhanced integration are reduced if “any major sector of trade is excluded” from internal trade liberalisation. The fact that this part of the agreement remains unclear is a problem – particularly because it has been used by many regional trade agreements to exclude agriculture or to use long phase-in periods. Perhaps one of the main reasons why this issue has only been addressed in general terms, rather than by specific complaints, is that a third country complainant would, in effect, be asking for the discrimination against its exports to be broadened. More precise measures of trade coverage are currently being debated at the WTO. For critical discussions of the GATT/WTO provisions concerning regional trade agreements and proposals for reforms, see e.g. Bhagwati (1991, 1995, 1999), Blackhurst and Henderson (1993), Crawford and Laird (2001), Deardorff and Stern (1999), Harmsen and Leidy (1995), Hoekman and Kostecki (1995), and Sheffield (1998).

New regionalism - understanding why

Before discussing the general content and nature of preferential trade agreements, it is appropriate to ask why this new surge in regionalism is taking place. Some argue that regional trade agreements are created in frustration over unsuccessful liberalisation attempts at the multilateral level (e.g. Burfisher and Jones 1998). Factors that made GATT/WTO negotiations difficult in the late 1980s and early 1990s were primarily (i) a dramatic increase in the number of new members, particularly developing countries, and (ii) less transparent forms of protection (e.g. voluntary export restraints, anti-dumping measures, technical barriers to trade, etc.) seemed to be growing as traditional trade barriers were being reduced, thereby making matters more complex. By contrast, others such as Ethier (1998) argue that it is the success, not the failure, of the multilateral trading system that is triggering the recent interest in PTAs by making participation in the international economy more rewarding.

In general, though, countries seek to create or join PTAs because increased market access will enhance the prospects of economic growth through keener competition, exploitation of scale economies, benefits from regional specialisation, technical spillovers, the possibilities of attracting investment to an expanded regional market, etc. There is also hope that such agreements will create a more stable and predictable trading environment. Finally, regional trading blocs may be viewed as being able to exert greater bargaining power in the multilateral WTO negotiations. (Harmsen and Leidy (1995); Schiff and Winters 2003).

While the above considerations may be valid for developed and developing countries alike, the particular interest of developing countries in regional trade agreements seems also to be motivated by a desire to lock-in domestic policy reforms through external commitment. In turn, through the associated increased credibility, involvement in a PTA may be an opening to increased foreign direct investment (FDI) – or perhaps a diversion of FDI flows from other similar countries that are not part of such an agreement. Ethier (1998) calls this ‘investment diversion’ – an effect that could motivate non-member countries to embark on reform programmes on their own if they remain outside regional trade agreements.

Finally, Baldwin and Venables (1995) put forth a domino theory of regionalism, according to which countries enter regional trade agreements simply out of fear of exclusion. I.e. the opportunity cost of remaining outside such arrangements seems to increase as new PTAs are formed and existing PTAs expand and deepen.

Each is unique – identifying key characteristics

The sheer number of preferential trade agreements suggests a complex web of trading relationships across the globe.^{6,7} Indeed, using Bhagwati's (1995) analogy, the global trading system can be characterised as a spaghetti bowl of tariff and non-tariff preferences and other increasingly complex regulations defined in the many overlapping agreements. In other words, PTAs differ with respect to product coverage, extent of tariff preferences, time frames for implementation, rules of origin, technical standards, safeguard provisions, customs administration rules, etc. Furthermore, several PTAs go beyond trade policy to include provisions on investment, competition, environment, and labour. Several GSP schemes include 'special incentives' so that beneficiaries can obtain an additional margin of preference subject to compliance with certain requirements related to labour and environmental standards as well as improved anti-drug campaigns (UNCTAD 2001b). In effect, it may be argued that this is similar to tied aid (Stoeckel and Borrell 2001).

Each agreement is worthy of an in-depth investigation of its detailed provisions in its own right, but also because the coexistence in a country of differing rules applying to different PTAs has the potential of hampering trade flows merely by the costs involved for traders in meeting multiple sets of trade rules. There is an increasing risk of inconsistencies in the rules and procedures among PTAs themselves, and between the PTAs and the multilateral framework. Nevertheless, given the scope of this paper, only the key characteristic of such agreements will be identified here. The Appendix provides summaries of the agreements that have been selected for coverage by the literature survey in the remainder of this paper. They also contain references to where further information may be obtained.

Starting with *tariff provisions*, agreements differ with respect to their breadth (i.e. extent of product coverage) and depth (i.e. extent of liberalisation). Based on a detailed study of a large number of regional trade agreements, both a recent WTO (2002b) survey and a recent UNCTAD (2001b) study of the various GSP schemes confirm what is often taken to be common knowledge, namely that both the extent of product coverage and the depth of liberalisation is less for agricultural goods than for indus-

⁶ The WTO (2000) provides visual snapshots of the current web of regional trade agreements at the sub-regional, regional, cross-regional, and global levels.

⁷ As Sapir (1998) illustratively points out, the European Union currently applies its MFN tariff schedule to just six countries (Australia, Canada, Japan, New Zealand, Taiwan, and the United States), which account for approximately one third of its total imports. The remainder of EU trade is affected by preferential treatment of one sort or another.

trial goods. Moreover, for industrial products, concessions are virtually always granted on the basis of a negative list, i.e. the outset is full product coverage, and the most sensitive products are then either removed or given transition periods. For agricultural products, many PTAs use a positive list approach, i.e. concessions are granted only on a few selected products, the rest being excluded or given long transition periods. In terms of the agreements dealt with in this paper, the US GSP scheme, for example, includes only selected agricultural and fisheries products for zero-tariff treatment. Furthermore, rather than complete elimination of tariffs, some agreements, such as the EU GSP, only provide for a specific reduction of tariffs on sensitive agricultural products. In other agreements, such as the EU-ACP Cotonou Agreement, quantitative restrictions (e.g. quotas and tariff-rate-quotas) still govern the imports of sensitive agricultural products. Finally, in yet other agreements, trade in sensitive products face long transition periods, e.g. sugar, bananas and rice in the EU EBA. Agriculture thus remains the most protected sector, not only in the multilateral context, but also in the regional context.

Further to the mentioning of *transition periods*, even within a PTA, the length of this transition may vary from product to product (e.g. different time schedules for the three sensitive products in the EBA), and also from partner to partner (e.g. asymmetric time schedules for the EU and South Africa). Reciprocal PTAs between developed and developing countries typically maintain longer transition periods for the developing country partner. The WTO (2002b) does note, however, that transition periods have generally become shorter.

Apart from tariff provisions, preferential trade agreements contain a wide range of other provisions. Typically, *quantitative restrictions* are required abolished at the date of entry into force, or they are progressively eliminated over time, unless they concern sensitive products as the examples mentioned above. The 1995 revision of the EU GSP, for example, removed all quantitative limitations on GSP-covered imports.

Perhaps even more important are the *rules of origin* that accompany PTAs to ensure that preferences are provided only to products originating in the member countries.⁸ In general, the country of origin for a product with inputs from more than one country is defined as the country where the last substantial transformation took place. Three main methods are used to establish this: (1) the change-in-tariff-classification method, (2) the value-added criterion, and (3) the technical test method. Typically, several cri-

⁸ See e.g. WTO (2002a) for a survey of rules of origin regimes in regional trade agreements.

teria are used to determine origin (WTO 2002a). Rules of origin may also be supplemented by a 'cumulation clause' whereby imported inputs from selected countries are counted as domestic ones (WTO 1998). Cumulation may be bilateral, where inputs from any of the member countries is considered domestic (this holds for e.g. CBERA, AGOA, CBTPA), or it may be diagonal, where inputs from certain non-members are also considered domestic (e.g. in the EU-South Africa agreement cumulation in ACP countries is permitted). According to the WTO (2002a) survey, the many exceptions to the general criteria significantly modify what may appear at first sight to be rather simple rules of origin. Two major models of rules of origin are currently being used: the "pan-European" (PANEURO)-model and the NAFTA-model.⁹ They differ significantly from one another, and while variations in the use of the former are rather limited, significant differences apply in the use of the NAFTA model with respect to e.g. the percentage of regional content requirements and the use of sector-specific exceptions. Hence, rules of origin appear in themselves to act as potential barriers to trade.

Virtually all PTAs contain *general and security exceptions* applicable to trade among parties similar to those contained in the GATT Articles XX (General Exceptions) and XXI (Security Exceptions). European PTAs typically include in their general exceptions actions "justified on grounds of ... public policy or public security" and some add provisions permitting protection of the environment, human, animal or plant life or health. According to the WTO (2002a), non-European PTAs often include a wider range of exceptions, including actions require "to prevent or relieve critical shortages of foodstuffs or other essential goods".

The use of *safeguard measures* is also often provided for, which means that preferences can be removed at the convenience of the preference-giving country. Safeguard clauses are expressed either in general or specific terms, to deal with emergency situations (along the lines of the GATT Article XIX-type actions), balance-of-payments, structural adjustment, or agricultural problems. In most PTAs, increased imports of a product may trigger an emergency safeguard action. The criteria are often formulated as e.g. 'serious disturbances in the economy' and 'serious deterioration in the eco-

⁹ The key features of the US preferential rules of origin are: (1) Minimum local content requirement: 35 percent of the customs value, (2) 'Substantial transformation' requirement, (3) Cumulation within specified regions and allowances for US content. The key features of the EU preferential rules of origin are: (1) Product-specific requirements related to (a) maximum import content, (b) specific processing criteria, and (c) change of tariff heading requirements, (2) Cumulation within specified regions and allowances for EU content. GAO (2001).

conomic situation of a region'. Interestingly, it is often not specified whether the emergency is to be linked to the concessions granted in the agreement. Moreover, only a few PTAs provide specific reference to GATT disciplines on the use of safeguard mechanisms nor do they mention specifically which measures are permitted. In terms of agricultural safeguards, the main triggering mechanism is 'serious disturbance' to the importing party's market (e.g. the EU GSP and EBA). In the agreements surveyed here, preferences are typically withdrawn temporarily and MFN rates are re-imposed. An example is the EU EBA, where preferences can be withdrawn for a maximum of three months. In other agreements, defence measures are not always specified (WTO 2002a).

Most PTAs (particularly FTAs) provide for the use of *anti-dumping (AD) duties* on intra-PTA trade, and these provisions are often made with reference to the GATT/WTO rules. PTAs also generally permit the use of *countervailing (CV) measures*, and the WTO (2002a) survey notes that the criteria used for invoking CV duties are typically wider than those permitted under the GATT/WTO, although there seems to be a tendency toward adoption of the WTO language in newer FTAs.

PTAs that seek some degree of deep integration typically contain provisions related to technical regulations and standards (TBT) and slightly fewer contain provisions related to sanitary and phytosanitary measures (SPS). With respect to TBT provisions, PTAs often aim for transparency in terms of exchanging information about partners' standards. When reference is made to SPS measures, agreements typically aim for harmonisation and, only in a few cases, mutual recognition. Occasionally reference is made to the relevant WTO provisions (WTO 2002a).

With regard to *accession provisions* in PTAs, bilateral agreements typically do not propose the third-country accession option. The EU-South Africa agreement, for example, only allows new members on the EU side of the agreement. In plurilateral agreements, third-party accession is dependent on certain geographical or income-level 'qualifications' (e.g. the ACP criterion for the Cotonou Agreement, and the LDC criterion for the EBA). Conversely, the non-reciprocal agreements such as the GSP schemes have explicit graduation mechanisms based on a variety of criteria (see e.g. UNCTAD 2001b). Although not always explicitly stated, most PTAs permit members' *participation in other PTAs*.

The agreements selected for coverage by this survey involve either the EU or the US on the one side of the table, and one or more developing countries on the other. Fur-

thermore, most of the arrangements are non-reciprocal either by design or because they do not provide for full trade liberalisation despite the intention. Hence, it is useful to compare and contrast the different approaches taken by the preference-giving countries. A recent GAO (2001) report compares and contrasts the EU and the US non-reciprocal trade agreements. Since the inception of the GSP programs in the early 1970s, the EU and US programmes have evolved in broadly similar ways. In particular, they have increasingly included more products, particularly for the poorest countries. Rules of origin have been relaxed over time in that more leeway has been given to the use of inputs from multiple countries in the production of their products. Another common trend is the move away from purely non-reciprocal programs to reciprocal arrangements. The EU, for example, is explicitly moving towards the construction of free trade agreements with the ACP countries in the context of the Cotonou Agreement. The US is negotiating a Western Hemisphere free trade area, which includes several countries that are currently beneficiaries of non-reciprocal agreements.

Although the EU and US programmes have evolved in broadly similar ways, there are important differences. In terms of product coverage, for example, although both the EU and US programmes exclude certain sensitive products, the EU programmes generally tend to include more products than the US programmes. However, for products that are covered by a preference programme (i.e. eligible imports), the US always provides duty-free access, whereas the EU programmes provide duty-free access for some goods but only tariff reductions for others. Despite these differences, the GAO (2001) report concludes that the EU and US programmes offer relatively similar tariff rates on average. For the largest of the EU and US programmes - the GSP - both schemes offer the same simple average tariff rate of 3%. The other US non-reciprocal programs (incl. the AGOA, CBERA and ATPA (Andean Trade Preference Act – not covered by this survey) programmes) offer a simple average tariff of about 2%, whereas the other EU programmes (incl. the ACP and EBA programmes) offer a simple average tariff of almost 0%. It is important to note, however, that these calculations do not include products that are subject to specific rates of duty. If ad valorem equivalents for specific rates were calculated and included, these averages would be higher. For comparison purposes, the GAO (2001) report mentions that normal imports (i.e. non-preferential) entering either the EU or the US market in 2000 faced an overall simple average tariff of about 5%. Once again, this average does not take account of specific rates of duty. It may be mentioned that it is especially agricultural products that face specific and combined tariffs, and this holds particularly true for the European Union (e.g. UNCTAD 2001b).

As already mentioned, product coverage of the EU's non-reciprocal preferential trade programmes is greater than that of the US programmes. In the case of the EU programmes, the GAO (2001) report shows that in 1999 the share of dutiable imports¹⁰ from beneficiary countries that were eligible for tariff reduction or elimination ranged between 59% for the EU's GSP and 98% for the EU's ACP programme. For the US, the shares ranged between 25% for the US GSP and 46% for the US GSP for LDCs. This does not mean that the imports actually received preferential treatment, however, only that the products were in compliance with the programme requirements and that they were eligible to receive such treatment if requested. The report shows that although the US programmes have more limited product coverage compared with the EU programmes, US beneficiaries make more use of their available preferences than do EU beneficiaries. In 1999 the utilisation rate¹¹ for US beneficiaries ranged between 72% for the US GSP and CBERA, and 92% for the ATPA. The utilisation rate for the EU's beneficiaries ranged between 25% for the EU GSP for LDCs and 68% for the ACP programme. Taking account of this less-than-full take-up rate (and considering only trade flows for which preferential arrangements offer real benefit, i.e. where MFN rates are greater than zero), Gallezot (2003) estimates that preferential imports account for 42% of developing countries' agricultural and agri-food imports to the EU. If the less-than-full take-up rate were not taken into account (i.e. assuming a 100% take-up rate), the data would lead us to believe that the share of preferential imports was somewhat higher, namely 47%.

Complex rules of origin are often stated as one of the main reasons why beneficiaries do not take full advantage of the preferences. Moreover, developing countries may lack the capacity to comply with other programme requirements (e.g. Topp 2001). Contrary to the EU, however, the US has not generally incorporated financial aid and technical assistance into its trade agreements with the developing countries. One exception is the AGOA, which contains provisions for providing technical assistance to help the Sub-Saharan countries to take advantage of the preferences of the programme. Finally, it should be mentioned that a major disadvantage of the non-reciprocal agreements as opposed to reciprocal agreements is that they generally require renewal, thereby making market access uncertain. Two important exceptions are the EU's EBA initiative and the US CBERA programme. The importance of predictability and stability of trade preferences is illustrated by the drop in the utilisation of the US GSP scheme from 61.8% in 1996 to just 37.8% in 1997. According to an

¹⁰ Dutiable imports are imports that face normal tariff rates greater than zero.

¹¹ The utilisation rate is defined as the share of eligible imports actually receiving tariff preferences.

UNCTAD (2001b) study, this sharp decline was quite likely connected with the protracted uncertainties regarding the continuation of the scheme after its expiration in May 1997.

3. Theoretical considerations on the impact of preferential trade agreements

3.1. Old trade theory¹²

With the complexity of preferential trade agreements in mind, this section provides an overview of the theoretical considerations on the impact of such agreements. Trade theory has been evolving over the years, essentially reflecting the changing nature of the international trading environment. As discussed above, regional trade arrangements are gradually developing from shallow agreements that limit themselves to tariff reductions with for a limited number of products to agreements that increasingly involve elements of deep integration. Examples of what deep integration may imply, include the removal or disciplined use of non-tariff barriers, as well as provisions governing trade in services, investment flows, regulatory harmonisation, environmental legislation, cross-border labour movements, etc. Mirroring this development, international trade theory is moving from the simple analysis of the removal of tariff barriers within the context of free trade agreements and customs unions, to analysis of the impact of deeper integration initiatives. There is a wealth of theoretical literature that explores the economic impact of preferential trade agreements. Since the focus of this paper is on empirical studies of PTAs, only the most central theoretical contributions will be referred to. See e.g. Panagariya (1999) for a more thorough treatment of the key theoretical contributions that address both old and new themes.

There is consensus among trade theorists that global free trade is welfare enhancing.¹³ With reference to the Heckscher-Ohlin-Samuelson theoretical framework, under global free trade, factors of production will be allocated among countries in a way that achieves structures of production, trade, and employment that are consistent with comparative advantage. Such a reallocation of resources will increase efficiency and thereby increase welfare. Short of global free trade, both reality and theory become more complicated. Preferential trade agreements (even those that are simple, or shallow) introduce an additional complexity because liberalisation is taking place in a ‘second best’ world, where some distortions are eliminated (e.g. tariffs within the

¹² The terms ‘old’ and ‘new’ trade theory are commonly used in the literature and will therefore also be used in this paper without making any prejudgement about the relevance and applicability of either strand of theory.

¹³ Adam Smith was the first economist to express his support for free trade and against the protectionist (mercantilist) theories in the eighteenth century. According to Adam Smith, free trade enhances the wealth of a nation because it permits the best allocation of resources across national borders. Protectionism interferes with this optimal allocation of resources, reduces the size of the market, and hinders an appropriate division of labour, thereby reducing national income.

PTA) while others remain (e.g. other intra-PTA domestic policies and tariffs on non-PTA trade) (Burfisher, Robinson and Thierfelder 2003).

The seminal theoretical contributions deal with static welfare analysis of customs unions and date back to the 1950s and 1970s, i.e. Viner (1950), Meade (1955), and Kemp and Wan (1976). More recently, Krueger (1999) has provided an analysis of the differences between free trade areas and customs unions.¹⁴ What complicates matters, however, is that many real-world agreements don't satisfy the textbook definitions of FTAs or CUs. Several PTAs contain selected elements of each of these in addition to various aspects of deep integration. Economic theory can, nevertheless, provide guidelines for assessing the welfare implications of these intermediate arrangements.

As will be seen in the next section, most of the empirical analyses of PTAs continue to rely on tools from what is becoming known as 'old' trade theory in the tradition of Viner and Meade. The focus is primarily on the static concepts of trade creation, trade diversion and terms-of-trade effects, although some empirical studies evaluate changes in these effects over time using dynamic modelling frameworks.¹⁵ *Trade creation* occurs when a PTA member increases imports from a lower-cost PTA partner, and its own high-cost domestic production declines. Consumers benefit because they can purchase imported goods at a lower price than the domestic variety. Lower prices increase consumer income, and by increasing demand, this effect may lead to increased imports from both PTA members and non-member countries. *Trade diver-*

¹⁴ In theory, a customs union is a preferred policy choice compared with a free trade area because it is possible to select a common external tariff so that the formation of the CU will have no adverse effects on non-members while improving the welfare of members (Kemp and Wan 1976). In practice, however, it is hard to imagine that it is possible to form a customs union that satisfies this criterion. Furthermore, using a theoretical model of incentives, Krueger (1999) demonstrates that there is an important protectionist bias inherent in FTAs that is not present in CUs. Conventional wisdom has been that a country can minimise the potential trade diversion losses (defined later in the text) of an FTA if it has very low trade barriers when it enters into an FTA. Examination of the implications of rules of origin, however, suggests that not only must a country's trade barriers be low, but so also must its partner's to ensure that the protection of one trading partner is not automatically extended to another FTA member. This is because in an FTA, rules of origin serve an additional purpose, namely to avoid the situation where imported commodities from outside the FTA enter through the FTA-country with the lowest tariff on each commodity, thereby undermining the tariff structure of each individual FTA member.

¹⁵ See e.g. Harrison et al. (1993) for a graphical representation of the concepts of trade creation and trade diversion in a partial equilibrium framework, and for a proposed alternative categorisation of the effects of joining a customs union that focuses on the effects on the domestic price and tariff revenue. Kowalczyk (2000) also presents an alternative to the Viner tradition by focusing on terms-of-trade effects and volume-of-trade effects.

sion occurs when intra-PTA trade replaces imports from more efficient non-member countries as a result of the PTA's tariff preferences. Trade diversion is mainly a cost to PTA partners that must pay a higher price for their imports, but it is also costly for outside countries that lose exports, and may be forced to lower their export prices.

When countries involved in a PTA are large enough to affect world market prices, there are *terms-of-trade effects* in addition to the trade creation and trade diversion effects. A PTA is likely to improve the terms-of-trade for its members and worsen them for non-members. Lower demand for non-member imports (because imports from member countries become cheaper due to tariff preference, despite a possible cost advantage of the non-member country) may lead to lower export prices of the non-member country. Furthermore, increased trade within the PTA may lead to a decline in the availability of goods to non-members, thereby raising the price of non-member imports from the PTA (and may force the non-member to produce such goods themselves). The deterioration of terms-of-trade of a non-member country is of course the mirror image of the terms-of-trade improvement experienced by the PTA member. So even if a PTA member loses tariff revenue in connection with a diversion of trade from non-members to members, these losses may be outweighed by improved terms-of-trade vis à vis non-members.

The net effect on national, regional, and global welfare depends on the relative size of each of these effects. In theory, one can construct cases in which the formation of a PTA is net welfare reducing or enhancing depending on assumptions made about the size of the countries involved in the PTA. See e.g. Burfisher et al. (2003) for a case of a PTA between a small and a large country. See Grossman and Helpman (1995) and Panagariya (1999) for the case of two small partners. De Melo et al. (1993), Schiff and Winters (2003), and DeRosa (1998) provide balanced models.

The bottom line is that theory cannot provide us with clear-cut conclusions, and therefore it is ultimately an empirical issue to determine the net impact of a given PTA. The traditional theoretical framework can, nevertheless, provide us with some guidelines. The net impact depends on a number of factors (Burfisher (1998); Díaz-Bonilla et al. 2003; de Melo et al. (1993); Harmsen and Leidy 1995):

- The comparative advantages and complementarities of PTA members vis à vis each other, and vis à vis the rest of the world. The risk of trade diversion is lower if the PTA being formed is between countries that are already major trading partners, indicating that trade flows are consistent with least-cost sourcing. Moreover,

the greater complementarity in import demands between PTA members, the greater the potential gains from a PTA.¹⁶ Trade creation is more likely to dominate trade diversion the greater the difference between unit production costs within the PTA and the smaller the difference in costs between the PTA and the rest of the world.

- The level of protection before and after the creation of the PTA. The higher the initial level of protection, the greater the benefits, if and only if post-PTA protection is lowered. Since agriculture remains one of the most protected sectors in most markets, the inclusion of agriculture in trade agreements therefore promises substantial gains. Clearly, trade diversion is minimised when the PTA's external barriers are low, i.e. low initial MFN tariffs.
- The interaction between trade liberalisation and domestic policies. To the extent that domestic distortions (e.g. agricultural output subsidies) contribute to net welfare losses, trade liberalisation may force them to be reduced, thereby enabling further welfare gains from PTAs. Moreover, non-trade-related deep integration policies adopted in connection with a PTA may also enhance the welfare impact of the agreement.
- The size of the economies involved. This will determine the extent to which the world price and thereby the terms-of-trade of the countries involved will be affected. Whether a trading country is small or large depends on the product in question and is therefore typically an empirical question.
- Rules of origin. If rules are liberal, some of the benefits of liberalised trade within the PTA may be transmitted to non-members. If they are restrictive, on the other hand, such rules may pose an additional form of protection and thereby work against the liberalisation by making it more costly or more difficult for processed

¹⁶ De Melo, Panagariya and Rodrik (1993) assert that at low levels of income, complementarity is greatest between countries with different factor endowments and probably therefore at different levels of per capita incomes. This suggests that there are potentially large gains to be had from a PTA between developed and developing countries. For high-income countries, complementarities are probably greatest for countries at similar levels of per capita income due to the higher share of intra-industry trade between such countries.

goods within the region to document local origin. Moreover, rules of origin may result in trade diversion if they create an incentive for producers in one partner country to purchase higher-cost inputs from another partner even though cheaper inputs may be purchased from outside the PTA.¹⁷

3.2. New trade theory

While ‘old’ trade theory focuses on the PTA-related changes in trade flows, prices, production structures, and the sectoral allocation of factors of production, ‘new’ trade theory considers a variety of other effects of preferential trade agreements. New trade theory is attempting to integrate the more recent aspects of regional integration, i.e. the deep integration elements. Moreover, some analysts argue that there is a need to explain the observation that the efficiency gains estimated using techniques based on old trade theory, although significant, seem small relative to national income and also appear to be too small to explain the rapid economic growth that has accompanied trade expansion in many countries (Burfisher et al. 2003). The contributions to this new field of trade theory are both relevant and promising, but still rather eclectic and do not yet provide a coherent framework appropriate for empirical analysis. The new trade theory tools include analysis of rent seeking behaviour, game theory, industrial organisation theory (especially imperfect competition), and new growth theory (e.g. understanding the links between international trade and productivity growth).

PTAs are assumed to lead to a wide range of effects other than trade creation, trade diversion, and terms-of-trade changes. More specifically, PTAs are thought to lead to better opportunities for exploitation of economies of scale in a larger market; increased competition (resulting in increased efficiency and innovation)¹⁸; “learning by

¹⁷ That such trade diversion is real is illustrated by several examples in Schiff and Winters (2003). One example in the food industry is the case of tomato catsup when NAFTA was created. In the days of CUSFTA, catsup produced from imported tomato paste qualified for duty-free treatment in internal US-Canada trade. Chile and Mexico jointly supplied over 80% of US tomato paste imports, in roughly equal quantities. Under NAFTA the rules of origin were changed so that tomato paste now had to be produced within NAFTA in order for the catsup to qualify for duty-free treatment. The result has been that Chile’s share of US tomato paste imports has dropped to 5%, while Mexico’s share has risen to 75%. As another example of the real costs of rules of origin, Herin (1986) has estimated that the cost to EFTA members of documenting origin in order to qualify for duty-free entry into the EU averaged 3-5% of the price.

¹⁸ Schiff and Winters (2003) correctly note that pro-competitive effects of PTAs, i.e. a combination of larger firm size (thereby increasing economies of scale) and a larger number of firms (which increases competition), are more relevant for high-income countries where product differentiation and economies of scale are more important than for developing countries.

doing” from expanded trade; information, technology and knowledge transfers (especially from developed countries to developing countries) that increase productivity; increased investment opportunities in a larger and perhaps more stable trading environment that carries with it advanced technologies and hence increases in productivity; exploitation of different factor proportions for parts of the production process (Ricardian efficiency gains); gains from specialisation, i.e. a larger product variety and thereby intensified intra-industry trade (Smithian efficiency gains), etc (Burfisher et al. 2003).

In particular, there is an increasing interest in investigating the link – both theoretically and empirically – between international trade and factor productivity, which seems to be a major source of additional growth and welfare gains. One possible explanation for a trade-productivity link is what Ethier (1998) calls ‘investment creation’. ‘New regionalism’ may be seen as an integrated part of a development strategy for developing countries that hope that internal reforms and more open trade regimes will attract FDI from developed countries. (‘Investment diversion’ may also occur, however, if FDI flows are diverted from other developing countries that are potential destinations for this finance.) Moreover, trade-related growth effects (through FDI or productivity increases) may encourage domestic policy reform (‘reform creation’) thereby enhancing the welfare benefits from regional trade agreements. (Conversely, countries not benefiting from increased or redirected FDI flows may have a reduced incentive to reform, i.e. ‘reform destruction’.)

Effects that work against the positive growth effects mentioned above may be non-transparent rules of origin that results in trade diversion and investment diversion.¹⁹ Such adverse effects are likely to be less marked if the PTA maintains relatively low MFN tariffs, thereby constituting an argument for continued multilateral MFN liberalisation alongside the creation of regional PTAs, as will be discussed below. Furthermore, the greater the trust in the continuation of the multilateral trade liberalisation process, the less incentive there would be to shift long-term investment plans in response to the construction of regional PTAs (Harnden and Leidy 1995).

In principle, the positive (and possibly negative) growth impacts of all these effects should be taken into account in addition to the conventional analysis of trade creation, trade diversion, and terms-of-trade effects to provide a full assessment of the benefits

¹⁹ The increased interest of Latin American countries in making bilateral agreements with Mexico may be interpreted as an attempt to avoid the expected trade and investment diversion toward Mexico as a consequence of Mexico’s membership of NAFTA (Harmsen and Leidy 1995).

and costs of a PTA. To the extent that PTAs stimulate regional growth, they may in principle offset the adverse static trade diversion effects, and stimulate trade both among PTA partners and with non-partners.

Against this background, it is argued by some (e.g. Burfisher et al. 2003) that analysis of the economic impact of PTAs must step beyond what can be achieved by using old trade theory – particularly analyses that consider only the static effects of PTAs. One needs to incorporate dynamic changes as captured in the newer trade theories and endogenous growth theories. Such effects may outweigh or negate the effects captured in the ‘old’ trade theory concepts of trade creation, trade diversion, and terms-of-trade. For example, if the formation of a PTA leads to increased competition and specialisation, and firms can exploit economies of scale when they have access to a larger market, one of the participants may actually become a low cost supplier of a good and thereby negate any initial trade diversion effects.

3.3. Regionalism and multilateralism: Friends or foes?

One of the most contentious aspects of the debate about preferential trade agreements concerns the relationship between regionalism and multilateralism. More specifically, do such agreements tend to reinforce or derail negotiations at the multilateral level? From the perspective of economic theory, the ‘first best’ approach to global trade liberalisation is indeed the multilateral approach. The welfare implications of regional trade agreements, on the other hand, are ambiguous and depend on the precise context. Bhagwati and Panagariya (1996), for example, strongly oppose regional trade agreements because of their trade diverting effects. Instead, they actively advocate a multilateral approach to trade liberalisation on the grounds that this builds on a non-discriminatory foundation. According to Bhagwati and Panagariya (1996) there are essentially only two justifications for PTAs: (1) agreements that entail truly deep integration, and (2) when there are no possibilities for multilateral trade negotiations.

In contrast, others such as Baldwin (1997), Ethier (1998) and Lawrence (1999) tend to regard regionalism as complementary to multilateralism. Blackhurst and Henderson (1993) also argue that to the extent that PTAs make a net positive contribution to freer

trade and increased predictability of future market access, they do contribute to the ultimate goal of global free trade.²⁰

As a consequence of the ambiguity concerning the impact of PTAs per se, economic theory cannot provide clear-cut answers as to whether regionalism reinforces or hinders the move toward global free trade. In a far-reaching review of over 60 recent contributions - primarily to the theoretical literature - Winters (1996) provides an overview of the arguments for and against. He finds significant arguments and historical evidence on both sides of the debate, and draws up a few tentative conclusions, namely that regionalism may: contribute to liberalising very restrictive trade regimes; increase the risk of less restrictive ones to break down; and be harmful if governments are influenced by sector-specific lobbying. As Winters (1996 p. 30) argues, "Trade diversion is good politics even if it is bad economics. I find quite convincing the view that multilateral liberalism could stall because producers get most of what they seek from regional arrangements." Nevertheless, Winters (1996) also asserts that by internalising the gains from liberalisation, regionalism may in fact facilitate freer trade in highly restrictive sectors – a conclusion to have in mind with respect to agriculture.

Table 1 provides a list of arguments in the literature for how regional preferential trade agreements may act as building blocks or stumbling blocks²¹ on the path to global free trade. There are of course elements of truth in both sets of arguments presented in Table 1. Harmsen and Leidy (1995) have attempted to identify the conditions under which PTAs are most likely to contribute to the overall goal of global free trade and to minimise trade diversion effects: Coverage of all sectors; Transition periods should be as short as possible; Transparent rules of origin; Liberal rules of accession; Cancellation of the possibility of using anti-dumping laws among members of PTAs; Strengthened disciplines on the use of anti-dumping action against non-members; MFN liberalisation should either precede or accompany new PTAs; In setting the common external tariff, customs unions should adopt the tariff schedule of the least restrictive member in its entirety or - more ambitiously – the lowest MFN tariff among members for each product; Deeper forms of integration are preferred, *ceteris paribus*, since potential gains from efficient resource allocation within the bloc are maximised.

²⁰ Other contributions to this debate include Krugman's (1991a,b) highly stylised political economy model, whose main conclusion is that world welfare declines as the number of trade blocs decreases (i.e. as countries are combined into ever larger PTAs) until the number of blocs reaches three.

²¹ It was Bhagwati (1991) who originally introduced this terminology.

Table 1. Arguments in the debate on regionalism vs. multilateralism

Building blocks	Stumbling blocks
PTAs encourage others to the multilateral negotiating table, i.e. the prospect of ‘fortresses’ may help motivate greater efforts to achieve successful multilateral negotiations.	Widespread regionalism may lead to a break-up of the world economy into hostile blocs that divert political energies from multilateral initiatives.
It may be easier to negotiate multilaterally between fewer and larger PTA-based blocks.	PTAs make it more difficult to negotiate at the multilateral level because agreement about positions needs to be achieved within blocks before and during negotiations.
Deeper integration within PTAs can help avoid destructive trade wars.	PTAs are by definition discriminating, and large PTA blocks may exert market power to improve the terms-of-trade of its members.
Expansion of membership based on open membership clauses will eventually lead to global free trade.	Closed membership clauses may block additional members in order to preserve trade gains, while open membership clauses seduce members into protectionist regional initiatives and diverts political energies from multilateral initiatives.
Adoption of ‘open regionalism’ (i.e. preferences provided on a MFN basis as suggest for APEC) will eventually lead to global free trade	Protectionism of countries not involved in PTAs may increase as regionalism spreads
PTA-induced growth can induce increased demand for extra-PTA imports thereby benefiting non-members.	Use of non-tariff barriers, e.g. anti-dumping and countervailing duty actions, against non-member countries increase as weaker industries struggle to survive regional free trade.
PTAs may be able to tackle issues too deep or complex for multilateral negotiations, and may even serve as blueprints for such issues before coming to the global level.	Deeper integration of policies and institutions may create or strengthen interest groups that benefit from trade diversion and have incentives to lobby against free trade.
Deeper integration of policies and institutions may help lock-in complementary market-oriented policies (‘competitive liberalisation’, i.e. increasing regionalism creates competition for reform and for membership of PTAs).	Deeper integration may introduce protection in previously unprotected markets through the adoption of common, distorting internal policies.
Deeper integration among PTA members (e.g. harmonisation of technical standards to international norms) may promote trade both within the PTA and with third countries.	The spaghetti bowl phenomenon leads to higher transaction costs, reduced and distorted trade flows. E.g. strict rules of origin may make it too costly to make use of preferences and/or may lead to trade diversion.
Membership of a PTA maintains investor confidence.	PTAs may lead to investment diversion.

Bhagwati and Panagariya (1996) also suggest ways to minimise the adverse effects of regionalism. Accepting the fact that regional trade agreements have come to stay, they propose the following two-pronged strategy to ‘defang’ them. First of all, the GATT

rules regulating such agreements should be strengthened. This could prove difficult, however, as more and more countries become members of at least one or more PTAs. Therefore, it may be more realistic to address specific trade diverting measures such as the use of anti-dumping measures and VERs. The second part of the strategy would be to continue working to reduce MFN tariffs since preferences given to PTA members are - by definition -*relative* to trade barriers against non-members.

The latter brings up the issue of erosion of preferences. As MFN tariff rates are lowered, the margin of preference obtained through PTAs of course declines. This is particularly of concern to developing countries that in some cases are heavily dependent on preferential market access to developed country markets. Preferences may also be eroded in connection with reform of the developed countries' domestic policies, as will be discussed in Section 3.4.

Summarising, the theoretical debate on the issue of regionalism vs. multilateralism provides very few clear-cut conclusions, and hence there is a decisive role for empirical models to compare the impact of PTAs with multilateral liberalisation efforts and thereby shed light on this complex issue. To this end it is worth keeping in mind, as Lawrence (1999) points out, which comparison it is one should be making: perhaps not regional preferential agreements versus complete multilateral liberalisation, but rather between two second-best situations of multilateral liberalisation that is only partial and PTAs which could be more complete.

3.4. Regionalism and nationalism: Friends or foes?

Just as regional trade agreements must be seen in the context of multilateral trade agreements, they must also be seen in the context of domestic (trade-related) policies at the national level. Domestic policies will influence the realisation of benefits from the liberalisation of trade at the regional (and multilateral) level.²² In particular with respect to agriculture there is an apparent contradiction between the calls for trade liberalisation on the one hand and trade protection and trade-related domestic policies

²² In the EU, for example, empirical studies seem to show that agricultural trade diversion has dominated trade creation as a result of the distorting nature of the Common Agricultural Policy, with significant negative welfare implications for both the EU and third countries (Harmsen and Leidy 1995). Implementation of recent reform proposals might dampen the adverse effects. Using NAFTA as a case study, Burfisher et al. (1998), find that the effects of farm programme reforms alone are greater than the impacts of NAFTA on agricultural output and trade. A shift to more decoupled farm programs make producers more responsive to changing market prices due to NAFTA, and so the reallocation of resources is more marked.

on the other. Market forces within a free trade area, for example, will tend to unify prices, thereby rendering the efforts of national agricultural policies to maintain different price levels either ineffective or very costly (Burfisher and Jones 1998). Table 2 provides examples of such inconsistencies.

Although by far not the only ones guilty of this policy inconsistency, the EU (Common Agricultural Policy) and the US (Farm Bill) are the most glaring examples. In principle, coordination of domestic policies can magnify the gains from forming a PTA by lifting barriers that insulate national markets, reducing transaction costs, allowing new suppliers to enter markets, and ensuring that more concealed trade restrictions are not reimposed through the back door (Schiff and Winters 2003). It is also possible that such agreements will encourage reform of protectionist (agricultural) policies. On the other hand, the inherent inconsistencies may also lead to the introduction or continuation of protectionist policies at the regional level, such as in the case of the successive enlargements of the EU and hence the adoption of the Common Agricultural Policy by new members. The agricultural policies of the EU and the US continue to create and maintain impediments to the full realisation of the benefits from liberalising trade.

Table 2. Effects of free trade on agricultural policies

Policy instrument	Interaction between free trade policy and domestic agricultural policy
Per unit production subsidy	Subsidy increases domestic supply and lowers import demand from RTA partner.
Guaranteed produced price and consumer subsidy	With fixed producer price, there is no change in domestic supply due to RTA, but cheaper imports from RTA partner drive up cost of subsidising consumers to purchase domestic product.
Price support through government stocks	High domestic price support induces imports from RTA partner and drives up support costs.
Production or marketing quota	Domestic producers have fixed output, but face lower prices if imports increase under the RTA: quota rents are redistributed to foreigners.
Direct payments	Decoupled policy has no effect on adjustments of production and trade due to RTA.

Source: Adapted from Burfisher and Jones (1998)

In fact, the purely nationalistic interests of a country would prescribe different (as opposed to common) policies, depending on the given country's net agri-food export

status, sectoral structure, and the extent to which producers are successful in lobbying for their interests to be heard (Lindsey 2003). When entering regional arrangements from an initial situation of unequally protected agricultural producers, a trade-off arises between income gains for different groups of producers. Such trade-offs will occur both among different industries within each country, as well as within an industry across national boundaries.

Thinking in terms of a country's social welfare function that takes into account the welfare effects of its partner country(-ies) when entering a PTA, what is important is the relative weighting of agricultural producers' incomes and consumers' incomes. Lindsey's (2003) conclusion is that the coexistence of national, regional, and global perspectives will inevitably lead to significant agri-food policy inconsistencies until trade liberalisation is truly global and until greater equality of consumer and producer interests are achieved both globally and nationally.

With respect to agriculture, multilateral commitments to reduce protection and support can prove decisive in terms of influencing the direction that regional trade agreements take in terms of including agriculture.²³ In turn, liberalisation commitments achieved at the regional level may be expected to reinforce efforts at the multilateral level.²⁴ Not all are convinced by this line of thought, however. Some analysts are critical of the way that regional trade agreements can be used to extend protectionism to other countries. De Melo and Panagariya (1993 p. 9) assert that "[i]n agriculture, the European Community has ended up becoming an instrument for extending national protection to the regional level." Winters (1993 p. 217-8), moreover, speaks of the European Community's 'managed liberalism' and concludes that it is "a [poor] substitute for genuine liberalisation, [...] because it typically attenuates competition in precisely those sectors which are most in need of improved efficiency."

Much of the above discussion concerns PTAs that involve very deep levels of integration in the sense that common policies are adopted (such in the case of the EU's

²³ By disciplining agricultural trade barriers and trade-distorting domestic agricultural policies, the accomplishments of the Uruguay Round provide an example of how progress at the multilateral level can discipline the construction of regional trade agreements as well as the direction of future domestic agricultural policies, e.g. recent reforms of the EU's CAP in light of eastward enlargement.

²⁴ In the early regional trade agreements, agriculture was most often exempted from liberalisation, with the notable exception of the EU. Over the past 10-15 years, however, many PTAs have begun to include agriculture to a greater or lesser extent, eliminating both tariffs and non-tariff barriers, thereby progressing further than the WTO commitments in some cases.

CAP). Most agreements are still, however, rather shallow in this respect. Especially in agriculture, most agreements exclude sensitive products and many restrict themselves to liberalising trade only for selected products. Precisely for this reason there is a need to understand the impact of protective agricultural policy regimes in the developed countries on their PTA partner countries. Policy reforms in the country(-ies) with a restrictive agricultural policy, e.g. a hypothetical reduction of price support in the EU and the US, would erode the value of preferential access granted to e.g. developing countries through a PTA. A politically contentious issue is whether and how developing countries should be compensated for this effect. Here there is potentially a new role for both multilateral and bilateral foreign aid policies.

4. Empirical assessments of preferential trade agreements

This section reviews more than 40 empirical studies with the aim of providing an overview of the methods being used to assess the impact of preferential trade agreements. In the process, a convenient set of references to an extensive and growing literature will be given. Ultimately, the goal is to gain insight into remaining gaps, and to point to where future empirical research should focus.

First of all, the analyst should let the choice of empirical methodology be determined by the type of question being sought answered. In the case of PTAs, is the analyst trying to ascertain, for example, the impact that such an agreement has had on the observed trade flows and patterns over a specific time period? Or is the analyst interested in “what if” questions, i.e. if a specific PTA took the form of a free trade agreement, for example, what would then be the consequences for trade, production, employment, income, etc.? Section 4.1 provides an overview of the different methods being used to analyse the selected PTAs.

Ideally, all empirical analyses should rest firmly on economic theory. Furthermore, the empirical model being used should be tailored to the specific issue at hand by incorporating relevant institutional features (e.g. the specifics of a given PTA and associated trade-related policy regimes) and important structural characteristics of the economies being represented (e.g. capital market rigidities in developing countries). Following this line of thought, the general features of the models and approaches being used to analyse PTAs will be discussed briefly in Section 4.1, after which the more special model features and amendments being introduced by the individual studies will be dealt with in Section 4.2.

A good empirical analysis naturally requires good quality data. Hence, data requirements and data availability are important issues to address for each of the empirical methodologies being used because this will to a large extent determine both the overall feasibility and reliability of any PTA assessment. Hence, the discussion of special model features will be followed by a discussion of data issues (including parameters used in the ex ante models) in Section 4.3.

As shall be seen, ex post analyses are typically constructed to test a specific hypothesis about the past. Ex ante modelling frameworks, on the other hand, are typically constructed so that a range of different “what if” scenarios can be investigated. A good empirical analysis is built up around the careful construction and explanation of

scenarios. Thus, an overview of the types of scenarios being investigated will be given in Section 4.4. Finally, the ultimate goal of any good empirical analysis is to generate results that can be communicated to a wider audience, including a discussion of the policy implications of these results. Section 4.5 summarises the results of the surveyed studies.

4.1. Methodological choices

The impact of individual preferential trade agreements is being assessed both *ex post* and *ex ante*. In this context, *ex post* analyses typically attempt to identify the key explanatory factors behind observed changes in trade flows, including the contribution of membership of a PTA to such changes.²⁵ *Ex ante* approaches typically build a more extensive modelling framework that can serve as a kind of economic laboratory in which experiments can be conducted to say something qualified about the expected impact of some exogenous policy change on trade flows, production, consumption, and welfare.

A number of *ex post* studies estimate various specifications of the so-called *gravity model* to assess whether or not membership of a PTA has had an effect on the observed trade flows. Gravity models have been used since the early 1940s to analyse the flow of goods and factors moving across regional and national boundaries. With relation to international trade, the gravity model in all simplicity states that the flow of trade (either nominal exports or imports, or the sum of the two) between two countries can be explained by supply conditions in the country of origin, demand conditions in the country of destination, and by forces that may either stimulate or restrain the bilateral flow. In their most basic forms, gravity models explain trade between two countries as a function of their GDPs (richer countries both export and import more), populations (larger countries depend less on trade), and the distance between them (as a proxy for transport costs, cultural similarities, etc.). Preferential trade agreements are then often proxied by a dummy variable²⁶ to capture the additional trade that occurs due to membership of such an agreement.

²⁵ Almost all *ex post* studies use measures of trade quantities as the dependent variable rather than prices, in part because price data are often unavailable. One exception is an *ex post* study by Winters and Chang (1997), in which the terms-of-trade effects of Spain's accession to the EU are examined.

²⁶ A dummy variable is a dichotomous variable, which in this case would take the value 1 if a country were member of a PTA and the value 0 if not.

Although widely used empirically, the gravity model has been criticised for its lack of theoretical underpinning (see e.g. Anderson and van Wincoop (2001) for a more recent critique). In response hereto, there is a body of literature that seeks to provide such a foundation (see Oguledo and MacPhee (1994) for a review of such attempts). In particular, Deardorff (1998) has worked on establishing a consistency between gravity models and variants of the traditional trade theories, such as the Ricardian and Heckscher-Ohlin models.

The main strength of the gravity model is that it is simple in its intuitive nature, but one of the costs of this simplicity is that analysis is restricted to one-way trade. Estimates of trade creation and trade diversion may be calculated for a given year based upon data for many countries. Clearly, more convincing results are obtained by using panel data, i.e. to capture changes over the period during which a given PTA is being formed. Table 3 provides an overview of the gravity model analyses covered by this survey.

Table 3. Gravity model studies	
Study	Agreement / Coverage
Retrospective analyses	
Coe and Hoffmaister (1999) ²⁷ Nilsson (2002) Nouve and Staatz (2003) Oguledo and MacPhee (1994)	Africa's trade with developed countries Lomé Convention and EU GSP AGOA beneficiaries' agricultural exports to the US Several PTAs including the GSP schemes and covering exports of 162 countries to 11 major developed country markets
Prospective analyses*	
Martínez-Zarzoso (2001) Martínez-Zarzoso and Nowak-Lehmann (2000)	EU-Mercosur trade in selected sensitive products EU-Mercosur aggregate trade
* Using methods that rely on historical (i.e. ex post) data, but using them to say something about probable effects in the future (i.e. prospective).	

²⁷ Coe and Hoffmaister (1999) seek an answer to the question of whether Africa's trade with industrial countries is 'unusual' compared with other developing countries. Although not addressing explicitly the issue of membership of preferential trade agreements, some of the results and aspects of the methodology used are of interest in this context.

In addition to gravity models, there is a number of other ex post techniques being used to assess the impact of PTAs.²⁸ As Table 4 shows, several of these studies use various forms of regression analysis, while others calculate indicators such as the Effective Rate of Protection, export similarity indices, and trade concentration indices. The purpose of these studies range from very general studies such as the assessment of the impact of a given PTA on aggregate real income (e.g. Coppin 1992a) to more detailed sector studies such as that of Raboy et al. (1995). A number of studies deal with specific issues related to the PTAs such as tariff escalation (Chevassus-Lozza and Gallezot 2003) and the extent of utilisation of preferences (Clark 1997). Others look into PTA-related economic policy issues such as eligibility decisions (DeVault 1996) and the trade policy choices of the preference-receiving country (Özden and Reinhardt 2003). The theoretical underpinnings of these different approaches are more or less explicit, and more or less well founded.

The ex ante studies use either partial equilibrium (PE) or general equilibrium (CGE²⁹) models. Both types of model can be used to answer “what if” questions about the impact of a given preferential trade agreement, but they differ fundamentally in terms of their theoretical underpinnings. PE models build directly on partial equilibrium theory and consider only those product markets in which the policy changes are taking place. The feedback effects of PTA-related policy changes on other product markets are not considered, and their interactions through intermediate input demands and competing demands for factors of production such as labour, capital and land, are not taken into account. In other words, quantities and prices in all other markets than the ones being considered are assumed to remain unaffected by the policy change.

All the early analyses (from the late 1970s up to the mid-1980s) of preferential trade agreements adopted a partial equilibrium approach.³⁰ Analysts use PE models because, due to fewer data requirements, partial models permit a finer level of disagre

²⁸ A few more examples of these types of ex post studies that focus on PTAs other than the ones selected for coverage in this review include Vollrath (1998), for example, who compares pre-integration and post-integration income elasticities of import demand for agricultural goods in his analysis of the impact of AFTA, APEC, CER, CUSTA, EU, and Mercosur. Anderson and Norheim (1993) calculate indexes of trade intensity and propensities to trade intra- or extra-regionally for the large geographic areas Europe, the Americas, Asia and Africa. Diao et al. (2001) use Trend and Cycles Decomposition (TCD) analysis to assess the historical growth path of agricultural trade among countries in the EU, NAFTA and Mercosur.

²⁹ The acronyms PE (partial equilibrium) and CGE (Computable general equilibrium) are commonly used in the literature, even though both are empirical, i.e. computable, as opposed to theoretical.

³⁰ See Bora et al. (2002) for references to early studies that use PE models to analyse non-reciprocal PTAs. Here reference will be made only to more recent PE studies (ca. 1993-2003).

Table 4. Other ex post studies

Study	Method	Purpose	Agreement / Coverage
Retrospective analyses			
Chevassus-Lozza and Gallezot (2003)	Effective Rates of Protection (ERP)	To assess whether PTAs have limited or reinforced tariff escalation	EU's PTAs with different groups of developing countries
Clark (1997)	(a) Logistic growth functions (b) Simple correlation analysis	(a) To analyse the extent to which beneficiaries have been successful in using the preferences provided to them (b) To identify country-specific reasons for differences in PTA participation	CBERA
Coppin (1992a)	Regression analysis	To assess impact on aggregate real income of PTA	CBERA
Coppin (1992b)	Gini-Hirschman index of concentration	To quantify diversification of exports as a result of PTA	CBERA
DeVault (1996)	Linear and logit regression models	To estimate eligibility decisions for uncovered products in a PTA	US GSP
Freund (2003)	Regression analysis	To analyse the extent of reciprocity in free trade agreements	North-South, South-South, and North-North agreements
MacPhee and Oguledo (1991)	Constant market shares analysis	To assess changes in preference-granting country's imports attributable to PTA	US GSP
Özden and Reinhardt (2003)	Regression analysis	To test the impact of PTA preference on recipient's own trade policy choices	GSP
Raboy et al. (1995)	Hedonic pricing techniques	To estimate tariff-equivalent of quantitative restrictions in a specific PTA	EU's banana trade regime affecting ACP and Latin American countries
Stevens (1990)	Descriptive statistics	To assess traditional and non-traditional export performance	Lomé Convention
Truett and Truett (1993)	Semi-logarithmic import demand function	To assess impact of PTA on non-traditional (manufactured) exports	US GSP
Prospective analyses			
Bora et al. (2002)	Export similarity indices	To assess potential market share losses by non-PTA members	EBA
Chevassus-Lozza and Gallezot (2003)	Effective Rates of Protection (ERP)	To assess impact of Harbinson proposal on tariff escalation facing developing countries	EU's PTAs with different groups of developing countries
Hoekman and Djankov (1997)	Effective Rates of Protection (ERP)	To assess impact of various tariff reduction strategies in relation to a PTA	EU-Egypt Euro-Med agreement

* Using ex post techniques to make quantitative projections about effects in the future (i.e. they are of a prospective nature).

gation of sectors and countries. Proponents of the partial equilibrium approach stress that a higher degree of detail allows for more focused analyses in which more efforts can be devoted to correct policy representation, and parameters and functional forms can be estimated for the specific purpose at hand. Empirical analysis using detailed, disaggregated data is, of course, of interest in its own right, but also because when dealing with regional trade agreements, Section 2 clearly suggests that the devil is in the details. Tariff peaks, for example, are often applied to very narrow product categories. Using too broadly defined sectors in an empirical analysis will mean that the full impact of these peaks will not be captured. All the PE model applications are static comparative.³¹ Table 5 provides an overview of the partial equilibrium analyses covered by this survey.

Table 5. Partial equilibrium (PE) studies

Study	Agreement / Coverage / Focus
Shapouri and Trueblood (2003)	AGOA trade in agriculture, apparel & footwear, and manufacturing & minerals
Akinkugbe (2000)	Impact of EU-South Africa agreement on ACP countries' exports to the EU
Hoekman et al. (2002a)	Impact of reducing tariffs and domestic support on LDCs
Hoekman et al. (2002b)	Impact of eliminating tariff peaks faced by LDCs in Quad export markets
Mattoo et al. (2002) ³²	Impact of AGOA on African apparel exports
Wainio and Gibson (2003)	Erosion of preferences that would face beneficiaries of FTAs or non-reciprocal trade agreements with the US if the US reduced or eliminated MFN tariffs on a subset of agricultural products

Most ex ante studies of regional trade agreements use global, or multi-country, computable general equilibrium (CGE) models. CGE models can also answer a range of “what if” questions about the impact of PTAs, but in contrast to the PE approach, the CGE framework builds on general equilibrium theory and rests on consistent micro-

³¹ An example of a dynamic PE model is that of Skripnitchenko and Abbott (2003), who use a dynamic adjustment cost investment model to simulate the behaviour of apparel firms exporting from the CBI beneficiary countries to the US. The focus of that study is on how foreign investment helps create capacity to take advantage of preferential trade agreements. Since the study is very sector-specific, it will not be treated further here.

³² The documentation of the PE approach being used in this study is very covert and can therefore not be dealt with in much detail here. In spite of this study’s focus on apparel (because of very the special rules of origin within the AGOA agreement) reference will be made to it when relevant to the PTA discussion in general.

economic foundation, in which intersectoral linkages, resource constraints, policy distortions, structural issues, and welfare analysis are in focus. CGE models are thus economy-wide and capture explicitly the linkages between all sectors of the economy through demands for intermediate inputs and factors of production.³³ The focus in these models is on sectoral resource allocation, production, consumption, and bilateral trade. The models solve for prices, wages, and the real exchange rates that equilibrate product markets, factor markets, and the balance of trade between countries. A strength of CGE models is that trade creation and trade diversion can be evaluated at the sectoral level. Furthermore, changes in welfare can be traced back to the different sectors by performing a welfare decomposition exercise to identify what is generating the gains and losses.

A CGE model is an appropriate tool when the policy changes being analysed simultaneously affect many countries and many sectors, and have effects on terms-of-trade, factor prices, and income. A PTA may be trade-creating in one sector and trade-diverting in another. Hence, determining the aggregate effect ought to take place in an economy-wide model. Most CGE applications are static (first generation), a few include increasing returns and imperfect competition in sectors where this is relevant (second generation), and even fewer still are dynamic (third generation) and can therefore include capital accumulation and technical progress effects. With respect to PTAs, the fact that most CGE models are static rather than dynamic means that they cannot take adequate account of the phasing-in of such agreements, nor can they account for the adjustment path. As already discussed, regional trade agreements allegedly have the potential of stimulating investment, capital stock growth, and productivity gains. Dynamic CGE models can in principle capture such effects by including e.g. links between trade and productivity growth. Depending on the choice of exogenous and endogenous variables (i.e. what is known as the model closure), CGE modellers can make various assumptions about e.g. price flexibility and supply constraints in factor markets. CGE models typically account for bilateral trade by adopting the so-called Armington approach,³⁴ which differentiates goods according to country of origin, thereby effectively giving each country some degree of market power in each

³³ See Nielsen (1999) for an illustration of the difference between a partial equilibrium and a general equilibrium approach to analysing an empirical policy issue using EU enlargement as an example. This study builds up a series of experiments that gradually include more markets and introduce more flexibility in factor markets so as to assess the importance of the price effects and other feedback mechanisms that are typically excluded or assumed exogenous in partial models.

³⁴ Full-fledged partial equilibrium models also often use the Armington assumption to allow for two-way trade.

good.³⁵ CGE modellers typically measure the aggregate welfare impact in terms of ‘equivalent variation’, which measures the cost to consumers of a given bundle of goods before and after a policy changes, e.g. accession to a PTA. Welfare improves if the bundle costs less as a result of the PTA, whereas it deteriorates if the bundle costs more. Table 6 provides an overview of the CGE model applications included in this survey.

From a theoretical point of view there is reason - a priori - to prefer a general equilibrium approach to a partial approach because CGE models are able to capture the economy-wide first- and second-order effects of preferential trade agreements. Some sectors will expand while others will contract due to sectorally different trade liberalisation provisions included in the agreement, and due to the underlying competition between production sectors for given supplies of labour, capital and land. Taking an economy-wide approach is of course more data demanding than a partial approach since a CGE model requires a complete and consistent input-output table, a full account of trade flows and related tariff rates, macroeconomic and government account data, etc. in addition to a range of behavioural parameters. These elaborate data requirements are often one of the reasons why modellers chose a partial approach.

To be fair, however, it seems that modellers in both camps (PE and CGE) can gain useful insights from one another. Ultimately, the goal of good economic modelling is to obtain credible results – qualitatively and quantitatively. At the same time, models need to remain manageable. General equilibrium models ought therefore spend time tailoring the model to specific needs in terms of policy and institutional representation as well as incorporating more realistic aspects such as dynamic effects. A good example of a CGE model that incorporates a lot of sector-specific policy detail is the EU sugar policy study by Frandsen et al. (2003). Similarly, partial equilibrium models must be particularly aware of important intersectoral linkages and the role of factor markets.

³⁵ An alternative way of obtaining two-way trade in the same sector in CGE models is to model the market structure as monopolistically competitive (e.g. Francois and Roland-Holst 1997), which means that market power is enjoyed at the firm level rather than at the country level.

Table 6. Computable General Equilibrium (CGE) model studies

Type		Study	Agreement
Static	GTAP ³⁶	Bora et al. (2002)	EBA and hypothetical Quad EBA
		Ianchovichina et al. (2001)	AGOA, EBA, hypothetical Quad EBA
		Kerkelä et al. (2000)	EU-ACP
		McDonald and Walmsley (2003)	EU-South Africa
		Stoeckel and Borrell (2001)	Hypothetical pref. access provided by high-income OECD to non-Cairns ³⁷ Group developing countries
		Teixeira et al. (2002)	EU-Mercosur and FTAA
		Trueblood and Somwaru (2002)	EBA and hypothetical US EBA
	Yu and Jensen (2003)	EBA	
	Other global	Brown et al. (1997)	EU-Tunisia
		Lewis et al. (2001) ³⁸	EBA ³⁹ and hypothetical EU-SADC FTA
		Harrison et al. (2003)	EU-Mercosur and FTAA ⁴⁰
	National	Hoekman and Konan (1998)	EU-Egypt
		Konan and Maskus (1997)	EU-Egypt
McDonald (2002)		Botswana	
Rutherford et al. (1997) ⁴¹		EU-Morocco	
Andriamananjara and Hillberry (2001) ⁴²		EU-South Africa	
Quasi-dynamic		Dessus and Suwa-Eisenmann (1998) ⁴³	EU-Egypt
Dynamic		Wolf (2000)	EU-UEMOA as a hypothetical FTA under the Cotonou Agreement

³⁶ The standard GTAP model is a multi-regional, static CGE model based on neo-classical economic theory. Markets are assumed to be perfectly competitive, the technology of the profit-maximizing producers is characterized by constant returns to scale, and substitution between inputs is admitted. The behaviour of the utility-maximising consumers is captured in a non-homothetic private demand system. Capital and labour are perfectly mobile between sectors while total factor endowments are fixed within each region. Land is restricted to use in the primary sectors and shifts here are determined by an elasticity of transformation. Foreign trade is described according to the Armington specification, which means that products are differentiated by source region. This allows for the tracking of bilateral trade, rather than just net trade. Macroeconomic closure of the model is achieved through a global bank, which ensures equilibrium of global savings and investment.

³⁷ Members of the Cairns Group: Argentina, Australia, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Guatemala, Indonesia, Malaysia, New Zealand, Paraguay, Philippines, South Africa, Thailand, Uruguay.

³⁸ This study uses the GTAP database.

³⁹ This study looks at a partial EBA, namely one in which the EU grants duty and quota free access to only the SADC countries.

⁴⁰ This study focuses on the impact of these agreements on Brazil.

⁴¹ In this national model imports and exports are distinguished by origin and destination, respectively, according to whether they are from/to the EU or the Rest of World.

⁴² Andriamananjara and Hillberry (2001) use the GTAP model to perform a sequential analysis of the EU-South Africa free trade agreement while incorporating outside econometric estimates of South Africa's dynamic gains from trade. This is an approximation to a dynamic model.

⁴³ The model used in this study builds on a prototype single country recursive dynamic (static expectations) CGE model built for trade analysis at the OECD Development Centre (Beghin et al. 1996).

4.2. Special model features and assumptions

While the different methods have been described briefly and in general terms in Section 4.1, this section highlights the ways in which the various studies distinguish themselves from the ‘standard’ model for each of the different methodological approaches. Departures from the ‘standard’ data sets will be dealt with in Section 4.3.

Gravity models

Most gravity models have either bilateral exports or imports as the dependent variable. Coe and Hoffmaister (1999), however, use the sum of exports and imports as the dependent variable since they find that the difference in estimation results from using any of the three variables was negligible. Furthermore, most modellers perform a logarithmic transformation of the gravity equation so as to enable the use of standard estimation techniques. Such a transformation is typically not problematic, but in the case of bilateral trade data, where many observations are zero, a logarithmic transformation is not possible. One option is to omit the zero observations with the risk of obtaining biased or inconsistent estimates. Yet there may be many good reasons why there is no bilateral trade in a given commodity, and the gravity model should therefore be able to predict that. For this reason, Coe and Hoffmaister (1999) avoid the logarithmic transformation ‘solution’, and instead use non-linear estimation techniques to allow for zero observations. Most of the other gravity model studies do not comment explicitly on the issue of zero observations. Some authors refer to ‘missing data’, which imply a different number of observations for each industry in the case of Martínez-Zarzoso’s (2001) study, for example, but it is unclear whether the missing data represent zero observations. Whether performing a logarithmic transformation of the data or not, zero observations can contain valuable information, and should therefore be treated specifically.

One of the drawbacks of the most simple cross-section estimations of the gravity model (including just GDP, population, and distance between countries as the explanatory variables) is that they ignore the possibility of country-pair heterogeneity. A country might export different amounts to two countries which have the same level of GDP, similar sized populations, and that are equidistant from the exporter. Reasons for this difference may be related to participation in a given PTA, or other historical, cultural, or linguistic ties, etc. If such effects are not successfully captured by the explanatory variables, the result will be biased estimates of the coefficients. If there is not enough information about such underlying factors, if they are difficult to observe

or difficult to quantify, some analysts address this problem by including a fixed effect variable to capture the effects of all the omitted variables that are cross-section specific, but remain constant over time. The study by Nogue and Staats (2003) is an example of such an approach, which in the process removes all other time-invariant variables from the model. Hence the distance variable, for example, becomes irrelevant in this model because the effect of distance is captured in the fixed-effect country-pair intercept.

Martínez-Zarzoso (2001) and Martínez-Zarzoso and Nowak-Lehmann (2000) deal with the problem of omitted variables in a slightly different way. Martínez-Zarzoso (2001) retains the geographic distance variable and instead includes constants identifying country-pair-specific effects for each sector and time-specific effects for each sector. Martínez-Zarzoso and Nowak-Lehmann (2000) also include time dummies, which will pick up effects of any variables affecting bilateral exports that vary over time, are constant across trading-pairs, and which have not been included explicitly as an explanatory variable.

Other gravity model analyses that study the impact of a given PTA explicitly include a dummy variable indicating membership or eligibility, e.g. Nilsson (2002), and Oguledo and MacPhee (1994). Notwithstanding their use of a fixed-effect gravity trade equation, the study by Nogue and Staats (2003) actually includes two PTA-related dummy variables and represents an attempt at tailoring the model to the specific needs. The US AGOA programme provides for duty- and quota-free access for Sub-Saharan Africa's textile products to the US subject to very stringent rules of origin.⁴⁴ Hence, in addition to a dummy variable that indicates whether and when a given country was declared AGOA-eligible, there is dummy variable indicating whether or not an eligible country has implemented the apparel visa system required by the US to benefit from the apparel preferential treatment embodied in the AGOA programme.

⁴⁴ The AGOA provides for duty- and quota-free access to Sub-Saharan Africa's textile products made from US fabrics, yarns and threads, following a so-called triple transformation rule. Beneficiaries may also source inputs from other eligible African countries, but they are subject to an upper limit imposed on imports based on non-US materials. AGOA beneficiaries can only benefit from the apparel preferential treatment after establishing an effective visa system that can detect illegal transshipment and counterfeits and enforce verification procedures. These highly restrictive rules of origin imposed on AGOA apparel imports are indeed one of the main sources of criticism of the programme.

Nilsson (2002) adds another dimension to his analysis of the effects of the Lomé Convention and the GSP preferences on exports from developing countries to the EU during the period 1973-1992. This study distinguishes itself from the others by treating the EU countries separately rather than as a whole. Included in this gravity equation are thus dummies for Belgium, France and the UK to investigate whether imports from countries with which they have historical ties (e.g. former colonies) might be relatively greater compared with imports from other developing countries. Along similar lines, Martínez-Zarzoso and Nowak-Lehmann (2000) include dummy variables for trading partners sharing a common language and a common border. They also include an infrastructure index capturing information on roads, paved roads, railroads, and telephones.

Oguledo and MacPhee (1994) also extend the classic gravity model by not only including dummy variables for preferential trade agreements, but by also including tariff variables. Their hypothesis is that if both the tariff and the dummy variables are statistically significant, this would indicate that studies using only dummies would generate biased estimates of the trade benefits of PTAs.

In the gravity model analysis by Coe and Hoffmaister (1999), which does not explicitly consider membership of PTAs, but investigates determinants of African trade with developed countries in general, the trade regime of the African countries is considered explicitly. This is done by including as an explanatory variable the so-called Sachs-Warner index that measures the degree of openness. The index considers four elements: (i) average tariff rates, (ii) average quota and licensing coverage of imports, (iii) size of a black market exchange rate premium, and (iv) other controls such as taxes, quotas, or state monopolies on exports.

Other ex post techniques

Both ex post and ex ante models make explicit or implicit assumptions about the relative size of the economies involved in a given PTA, and therefore also assumptions about the magnitude of the export supply elasticities. Clark (1997), however, makes no such implicit assumptions. On the contrary, the explicit aim of that study is to estimate the extent to which exports of beneficiaries could realistically expand in response to the tariff preferences provided to them. In his use of logistic growth func-

tions⁴⁵ to analyse participation rates in the CBERA, Clark (1997) takes as the starting point a notion of a dynamic process by which successful beneficiaries will increase their share of preferential exports in total exports over time as exporters “learn how to claim CBERA eligibility, familiarize themselves with provisions of the scheme, expand production capabilities, and develop new distribution channels to sell more eligible product in the United States.” (Clark pp. 186-7).

Clark (1997) starts by estimating for each beneficiary the rate of adoption (the rate of adjustment to a long-run equilibrium ceiling) and an upper limit of participation in the tariff preference scheme (a kind of long-run equilibrium percentage of total exports that will enjoy CBERA duty-free access). In the second step of the analysis, he relates the estimated parameters of the logistic growth functions to country-specific characteristics to identify factors explaining inter-country differences in observed (estimated) utilisation rates of the CBERA preferences. The factors assumed to be important determinants of utilisation of preferences are: trade orientation of a beneficiary prior to the preferential agreement, ability to mobilise capital and labour resources, infrastructure availability, past growth performance, average tariff rates prior to the preferential agreement, and the participation in other preferential access agreements (e.g. the GSP).

DeVault (1996) distinguishes itself from other ex post analyses by using logit regression models to assess inherently quantitative aspects of PTAs. More specifically, he considers the GSP eligibility decisions made by the United States government for uncovered products.⁴⁶ He addresses explicitly the issue of limited product coverage by the US GSP (e.g. exclusion of many agricultural products, textiles and apparel, etc.) by identifying political and economic criteria that determine whether GSP coverage will be broadened. More specifically, upon receiving a request for eligibility for an uncovered product by foreign governments, he envisages the decision process being made in two stages. In the first stage, domestic firms determine the strength of their opposition to the eligibility request. In the second stage, the US President decides whether the request for eligibility will be granted. In both cases, several of the hypothesised explanatory factors are non-observable, and therefore DeVault (1996) uses

⁴⁵ “The logistic function is commonly used to describe the growth path over time of any variable for which: (a) an upper limit exists, and (b) observed changes in the variable in each time period are dependent upon both the cumulative value attained in the preceding period, and the remaining distance to the upper limit value.” (Clark 1997 p. 186).

⁴⁶ A logit model is used when the dependent variable is qualitative. In this case the dependent variable is a dummy variable indicating whether or not the domestic industry opposes eligibility.

several proxies. To give an example, the degree of domestic opposition to an eligibility request is hypothesised to depend on the expected loss to the domestic industry. The percentage increase in US imports is used as a proxy for this loss. A number of other explanatory factors (e.g. the political influence of a domestic industry, the cost of a domestic industry's opposition, etc.) and proxies (ratio of value added to output, ratio of industry exports to imports, geographic concentration, industry tariff rates, number of domestic firms, etc.) are included in the model.

Freund (2003) addresses another critical aspect of PTAs, namely the possibility that free trade agreements that in principle are supposed to be fully reciprocal, may be rather unbalanced in the case of North-South agreements reflecting the unequal bargaining power of the participants. The basic regression equation she estimates is very simple and has the preference given by the one partner i to its partner j – using three different measures of preference – as a linear function of the preference given in reverse (i.e. from j to i), and the level of GDP of each country.

As discussed in Sections 3.3 and 3.4 concerning the compatibility of regionalism with multilateralism and nationalism, there are differing opinions as to whether regional trade agreements encourage liberalism or protectionism. Özden and Reinhardt (2003) set up a model to test the hypothesis that countries that graduate from the GSP scheme adopt more liberal import policies than those remaining on GSP. For robustness, the authors estimate the same model separately for three different measures of the dependent variable: (i) a measure of import restrictiveness: i.e. total imports as a percent of GDP, (ii) duties as a percent of total trade, and (iii) the unweighted average nominal tariff. Among the key explanatory (independent) variables are a *GSP* dummy indicating GSP status and a *GSP fraction* variable to indicate the extent of GSP coverage for a particular country (defined as a country's GSP exports to the US as a percent of its total exports in a given year). To control for other factors that determine trade policy, the list of variables also includes a trend, IMF conditionality, market size, income, geography, and growth.

Partial equilibrium studies

Shapouri and Trueblood (2003) do not use a full-fledged partial equilibrium modelling framework due to lack of data. Rather, they use the reduced form (one equation) of a standard partial equilibrium system of equations. This equation has changes in the value of SSA exports to the US as a function of initial exports, changes in the ef-

fective export price (caused by tariff reductions or eliminations), and the AGOA-related export elasticity of the SSA countries. Using this simple reduced form equation, the authors then estimate the export elasticity to assess whether beneficiaries are expanding their exports to the US by taking advantage of the AGOA programme or increasing their general export-enhancing investments.

Akinkugbe (2000) also reduces a partial equilibrium system of equations (in this case to two equations), but here the elasticity of substitution is taken as given, and it is instead the extent of trade diversion harming ACP countries as a consequence of the EU-South Africa agreement that is estimated. In the first step, the relative price change is calculated as a result of the change in tariffs. In the second step, the extent of trade diversion is calculated as a function of the change in relative price, the existing level of imports from each of the two sources, and the elasticity of substitution between goods of the two sources.

Albeit not in the context of preferential trade agreements, Hoekman et al. (2002a) use a simple partial equilibrium model to investigate an issue that is of relevance to this debate. They study the relative importance of a 50% tariff reduction and a 50% reduction of domestic support to farmers across all WTO members on LDCs. Using the same model, Hoekman et al. (2002b) address another important issue, namely the specific issue of tariff peaks faced by LDCs in Quad export markets.⁴⁷ This is motivated by the observation that preferences provided to developing countries are concentrated in products with low tariffs (between 0 and 15%) rather than on tariff peaks. Moreover, tariff peaks tend to be concentrated in agriculture (particularly sugar, cereal and meat) and in labour-intensive manufactures like apparel and footwear. The authors justify their PE approach on the grounds that tariff peak products account for small shares of total trade for most countries and therefore the interactions with the rest of the economy are not important.

Furthermore, another special feature of the Hoekman et al. (2002b) approach is that within each product category (HS 6-digit level), they assume that goods are perfectly homogenous. This contrasts with the Armington assumption typically used in many

⁴⁷ Hoekman et al. (2002b) provide comparisons of the average tariffs and the margins of preference faced by different groups of developing countries on their exports to the EU, the US, Canada and Japan. In general, the preferential schemes are quite generous. The largest margins of preference are given to LDCs and the lowest margins are given to GSP countries. Furthermore, the EU preferences are more generous than those of the other Quad countries. Preferences are much less generous for tariff peak products. Once again, the EU is more generous than the others.

other PE (and CGE) models, by which products are distinguished by country of origin, and each country thereby has some degree of market power. Also in contrast to the Armington assumption, Wainio and Gibson (2003) assume an infinite elasticity of export supply in their partial equilibrium study.

General equilibrium analyses

Static CGE model analyses: GTAP applications

Most analysts using the GTAP model use it as it is, without modifying the model structure or the model closure. In the studies reviewed here, this is true for Bora et al. (2002), Ianchovichina et al. (2001), Stoeckel and Borrell (2001), Teixeira et al. (2002), Trueblood and Somwaru (2002), and Yu and Jensen (2003).⁴⁸ For the other two GTAP applications, the main modification being made is to the closure. More specifically, the standard GTAP closure assumes that factors of production (land, labour, and capital) are fully utilised. This may not be the most adequate representation of the situation in developing countries, however. Kerkelä et al. (2000) use an alternative closure, which fixes real wages and lets the labour supply adapt to changes. One possible interpretation of this choice would be the classic phenomenon of surplus labour in developing countries as described in the seminal Lewis dual economy model. Another GTAP application, namely McDonald and Walmsley (2003), uses this closure for unskilled labour. They change the standard closure further by fixing the ratio of the trade balance to national income for all African, Latin America, and South American regions except Mexico in their analysis of the EU-South Africa FTA.

One notable model refinement is that conducted by McDonald and Walmsley (2003). They adapt the GTAP model by creating a tariff revenue pool since South Africa is a member of SACU, meaning that the tariff revenues earned by all the member countries are pooled and distributed according to a revenue sharing formula. Hence the model equations are amended to account for inter-country transfers of tariff revenues instead of the standard assumption that the tariff revenue earned by a country is allocated directly to that country's government.

⁴⁸ As shall be seen in the next section, several of these studies do, however, make modifications to the standard GTAP database.

Static CGE model analyses: Other global CGE models

The other static global CGE models are very similar in structure to the GTAP model, with a few noteworthy differences. The CGE model used by Lewis et al. (2001), for example, differs from the GTAP model in the following ways. First, exports are treated as imperfect substitutes with domestic goods using a CET (Constant Elasticity of Transformation) function. The standard GTAP model only assumes imperfect substitution on the import side, which according to Lewis et al. (2001) implies that domestic prices of exportables are highly sensitive to changes in foreign demand. When analysing trade liberalisation scenarios, this may result in unrealistically large terms-of-trade effects. A second feature of the Lewis et al. (2001) model is the use of an AIDS (Almost Ideal Demand System) rather than a CES (Constant Elasticity of Substitution) import demand function, which allows for more flexible treatment of degrees of substitutability between goods originating from different countries. Finally, the model assumes that the regional trade balances are fixed in contrast to the standard GTAP model closure, in which regional trade balances vary endogenously. The reason for this choice is to abstract from short-run macroeconomic adjustment.

Just like some of the GTAP applications used different closures, so do the other global CGE studies. Lewis et al. (2001), for example, use a non-neoclassical labour market closure (fixed real wages and flexible labour supply) for South Africa and the other SADC countries. Brown et al. (1997) also use an atypical labour market closure. They assume a flexible economy-wide wage in each country/region to ensure full employment, but the wages across sectors are held fixed relative to one another. Moreover, Brown et al. (1997) also keep constant any initial trade imbalances in their global model. What this essentially does is fix the level of gross investment in each region.

All the CGE models referred to up till now have assumed perfect competition in all sectors. Given its focus on the manufacturing industries, the model used by Brown et al. (1997) to analyse the EU-Tunisia FTA characterises the agricultural sector as perfectly competitive, whereas the non-agricultural sectors are modelled as monopolistically competitive with free entry.

A model that clearly distinguishes itself from the others is that by Harrison et al. (2003). In their analysis of the implications of the EU-Mercosur agreement and the proposed FTAA on Brazil, Harrison et al. (2003) incorporate 20 different types of

Brazilian household: ten rural and ten urban. The other regions represented in the model are characterised by a single representative household.

Static CGE model analyses: National CGE models

In principle, global CGE models can achieve the same level of detail as national models, but in a global analysis the focus is most often not on a specific country and the data requirements are such that a substantial amount of careful data work would be needed to ensure such detail for each country in the model. One notable study in this respect is that by Harrison et al. (2003), where country-specific detail is achieved in a global model by incorporating more detailed data for one specific country of interest, namely Brazil. But in general, the benefit of using national CGE models as opposed to multi-regional or global models is that special characteristics of the country of interest are sometimes more readily highlighted because focus is on one country. The specific sectoral structure of the economy can perhaps be more readily reflected, rather than being squeezed into a one-size-fits-all database aggregation scheme that may be more or less inappropriate, but would nonetheless be required for a global model. National models may also allow the modeller to reflect structural rigidities and specific policies in the country of interest, although again, this is also possible in a global model, as the examples of specific labour market closures in the global models have shown, e.g. Lewis et al. (2001) and Brown et al (1997).

Along similar lines, McDonald's (2002) model of Botswana does not generally assume full employment. Furthermore, reflecting the policy of a managed exchange rate, McDonald (2002) assumes a flexible exchange rate and fixed foreign savings. In order to reflect the large role of the government in funding investment, real investment is also fixed in this model. Another example of country-specific model adaptations is the fixing of sectoral land allocations, while permitting other factors to be mobile. This limits to some extent the supply response of the agricultural sector in an attempt to reflect climatic and agronomic restrictions on agricultural production. Another study that tries to reflect national resource constraints is that of Hoekman and Konan (1998). They assume a partially mobile capital sector in their analysis of the EU-Egypt FTA to reflect resource constraints in the agricultural, mining, utilities, and transport sectors.

Another example of a study that introduces country-specific structural features is McDonald's (2002) Botswana model, which allows for secondary production, i.e. ac-

tivities (industries) can produce more than one commodity. This is particularly relevant in agriculture and food systems, which are typically characterised by multi-product farms (industries). Another feature of that model is the inclusion of transport and marketing margins, which are determined endogenously in the model by the efficiency with which marketing services are being produced.

Just like McDonald and Walmsley (2003), Hoekman and Konan (1998) and Konan and Maskus (1997) also consider tariff revenue issues in their analysis of the EU-Egypt FTA. More specifically, they hold fixed the government budget deficit. If trade liberalisation then leads to a loss of tariff revenue, they assume that this loss must be recovered by an increase in the general sales tax rate. Rutherford et al. (1997) also fix the government revenue in their single country model for Morocco and force the value-added tax to be an explicit replacement tax for lost tariff revenue from the creation of the FTA with the EU.

The study by Hoekman and Konan (1998) moreover distinguishes itself by attempting to quantify the opportunity cost of *not* engaging in a deep integration agreement, i.e. the importance of removing regulatory barriers or ‘red tape’. More specifically, they introduce sector-specific import and export costs to capture the effect of such barriers. They make a distinction between which types of costs can be removed on a unilateral and non-discriminatory basis (e.g. administration procedures and inspection costs), and which barriers that would require formal bilateral agreements (e.g. product standards and qualification requirements for professional service providers). In absence of adequate information, the authors simply assume that half of these barriers would require negotiation of a mutual recognition agreement between the EU and Egypt. Hoekman and Konan (1998) also consider the implementation consequences of such barriers. Some are considered to be purely frictional in the sense that a reduction in import costs will shift ‘rent revenue’ to the consumer in the form of increased purchasing power. Others are resource-using barriers in the sense that they use up resources wastefully, and therefore impose additional costs on the economy.

Using a national model does not mean that trade with the rest of the world needs to be lumped together.

In their single-country model used to analyse the EU-Morocco FTA, Rutherford et al. (1997) distinguish exports and imports according to whether they are destined for or coming from the EU or the rest of world. More precisely, they use a two-tier CET function. The first tier determines the split between domestic sales and composite ex-

port sales. The next tier determines export sales to the EU and to the rest of world. Hoekman and Konan (1998) also adopt a CET specification of the export / domestic sales decision. Just like the global models, most national CGE models also use the Armington assumption to describe two-way trade flows. Here Rutherford et al.'s (1997) model is an exception again. For two sectors (meat & dairy and sugar) they assume that imports and domestic products are perfect substitutes.⁴⁹ To avoid excessive resource movement, the authors assume that factors of production are sector-specific in the homogenous goods sectors.

Quasi-dynamic and dynamic CGE model analyses

The study by Andriamananjara and Hillberry (2001) is unique in the sense that it consists of a sequence of static CGE simulations that are meant to capture more adequately the reality of the EU-South Africa agreement. The treaty is to be phased in over a 12-year period, where there are important differences with respect to the timing of cuts across parties and sectors. Furthermore, the authors argue that since South Africa and the EU are at such different stages of development, different rates of factor accumulation and technical growth would potentially lead to misrepresented results in a pure static framework, which would assume that all tariffs between the two countries are set to zero immediately.

Making further use of the quasi-dynamic nature of their model, Andriamananjara and Hillberry (2001) also distinguish their work from others by including outside estimates of dynamic gains from trade into what essentially is a static framework. More specifically, a time series of estimates of the effect of trade policy openness on growth in manufacturing sector total factor productivity (conducted by Jonsson and Subramanian 2000) is included.

Dessus and Suwa-Eisenmann (1998) also attempt to include dynamic gains from the EU-Egypt Partnership Agreement in their model of the Egyptian economy. Such gains are thought to be a result of increased competition or an increase in imported technology. More specifically, they add a Marshallian export-led externality to the model along the lines sketched in De Melo and Robinson (1992). The externality

⁴⁹ The reason for this is that initially there are no imports because of prohibitive non-tariff barriers. As will be discussed further in Section 5, one of the weaknesses of the Armington structure is that if there is no (or only very little) initial trade, a trade liberalisation will not be able to create any (or only very little) trade, even if very high Armington elasticities are chosen. By modelling them as perfect substitutes, removing trade barriers would substantially increase the import share.

equation has total factor productivity modelled as an increasing function of total manufactured exports. The first-order conditions are kept unchanged and therefore producers do not obtain benefits of exporting beyond the competitively determined level, i.e. this is a true externality, it is not internalised.

The Dessus and Suwa-Eisenmann (1998) model shares a number of characteristics with the models already discussed. More specifically, they fix the government budget surplus/deficit and let the household income tax adjust to achieve the predetermined net government budget position. Moreover, they use a CET specification of the export/domestic sales choice. Finally, along similar lines as the Rutherford et al. (1997) single-country model, they split the rest of world into four trading partners: the EU, NAFTA, the South-Mediterranean rim, and the Rest of World.

The dynamics in the Wolf (2000) model is introduced through endogenous domestic investment, while foreign direct investment is assumed to be exogenous. That model also assumes fixed real wages and flexible labour supply.

4.3. Data considerations

Gravity models

The data requirements of the simple gravity models are limited in the sense that the number of variables in the models is small – the simplest models just include GDP, population, and distance between traders. Furthermore, data on GDP and population, for example, are readily available from sources such as the World Bank's World Tables. On the other hand, if bilateral trade flows between many countries are to be analysed over a longer period of time, the data sets tend to become very large. Most of the studies reviewed here use panel data rather than cross-section data, e.g. Coe and Hoffmaister (1999), Martínez-Zarzoso (2001), Martínez-Zarzoso and Nowak-Lehmann (2000), Nilsson (2002)⁵⁰.

Gravity models are often estimated using aggregate trade data (e.g. Oguledo and MacPhee 1994), but sometimes more disaggregate trade data is used. E.g. Martínez-Zarzoso (2001) uses panel data covering exports from the four Mercosur countries

⁵⁰ In the Nilsson (2002) study the gravity model is estimated using data of three-year averages as a compromise between distinguishing between as many periods as possible and reducing the effects of temporary shocks.

plus Chile to the 15 EU countries for 19 sectors identified at the 2-digit SITC over the period 1988-1996.

Most often trade data used is on an annual basis. For their gravity model analysis, however, Nogue and Staats (2003) use quarterly data on agricultural exports from SSA countries to the US for the period 1999–2002. While the bilateral SSA-US bilateral trade data and the rest of the US data are available on a quarterly basis, the data for the SSA countries (e.g. production, population) must be ‘quarterised’ artificially. A more serious problem is that the panel data collected from the US International Trade Commission (USITC) database is for agricultural and non-agricultural exports, but it is not clear to the authors of the study (Nogue and Staats 2003) whether or not textiles are included in the definition of agricultural products because the USITC apparently does not provide further details of the components of these two overall categories. This has implications for the interpretation of their results, as shall be seen below.

Other ex post techniques

It is not possible to make general statements about the data requirements of the many other ex post analyses because they are so different. In some cases highly detailed trade and tariff data is used (e.g. data at the 8-digit ITS level DeVault (1996)), whilst in other cases highly aggregated data are used (e.g. Truett and Truett 1993).

Partial equilibrium analyses

PE modellers often defend their approach on the grounds that it allows for a much more detailed analysis as compared with e.g. CGE models. Indeed, the level of sectoral detail in these studies is great. To mention just a few examples, Hoekman et al. (2002a) use 6-digit HS level data, while Akinkugbe (2000) and Wainio and Gibson (2003) use 8-digit HS level data. One of the reasons that PE modellers stress the need for detailed sectoral data is because tariffs and other non-tariff barriers often refer to very narrow product categories. The trade-off, however, is that more often than not, this richness in detail cannot be followed through to the parameters of the models, such as elasticities because estimates are simply not available at that level of detail. (It should be noted, however, that also CGE model applications, which use more aggregated data, have trouble obtaining appropriate estimates of elasticities and other parameters.) Wainio and Gibson (2003), for example, must adopt uniform price elastic-

ities of demand. Hoekman et al. (2002b) are forced to assume that the elasticities of import demand (which are constructed from data in the literature) are equal across countries. The export supply elasticities they use for their model are also assumed constant across countries, but due to lack of information at this level of disaggregation in the literature, they were assumed to be equal to 0.5 (estimates with alternative values were tried out). Hoekman et al. (2002a) must also assume that import demand and export supply elasticities are identical for all (119) countries in the sample. What is unique about Hoekman et al. (2002a), however, is that the elasticities are actually estimated econometrically for different product groups as an integrated part of the study.

Not all modellers collect more than the MFN tariff rates for use in their models, nor do they always bother about non-tariff barriers and representation of domestic policy distortions. Hoekman et al. (2002 a,b) supplement the MFN tariff schedules collected from the OECD compendium by the Quad tariff schedules reported to the WTO-IDB database. For specific tariffs, ad valorem equivalents calculated by the OECD and the WTO Trade Policy Review division were used. The authors furthermore ensure representation of domestic subsidy-type support measures on a product-by-product basis, using WTO aggregate Measures of Support (AMS) data. Due to the variability of this data, the authors use observations that average across a four-year period rather than choose a specific year.

The more specific the study, the more specific are the data requirements. In their study of the consequences of the special rules of origin that relate apparel exports from the African countries to the US under the AGOA programme, Mattoo et al. (2002) collect the following data: estimates of tariff equivalents of export quotas derived from the literature using estimates for India as the reference, estimates of incremental costs of inputs due to restrictions on input sourcing, data from shipping companies to compute the extra transport costs imposed by the rules of origin, and different export supply elasticities depending on country-specific characteristics.

General equilibrium analyses

Static CGE model analyses: GTAP applications

The import tariffs in the GTAP database are averages of MFN applied tariff rates obtained at the tariff line level and aggregated up to the GTAP concordance using trade-weights. Given the important role of non-tariff barriers affecting agricultural trade,

these are reflected in the database as well using work by Tsigas (1998) for the OECD countries. For non-OECD countries, estimates of aggregate protection levels are based on OECD data and protection information from earlier versions of the GTAP database.

Several GTAP applications use the accompanying database as it is, e.g. McDonald and Walmsley (2003) and Stoeckel and Borrell (2001). Although using another model, Lewis et al. (2001) also use the GTAP database without any modifications. The problem is that most existing PTAs are not reflected in the GTAP database, which therefore has to be adjusted. Much of the discussion relating to the EBA initiative, for example, concerns the fact that the LDCs have already obtained significant preferential access to the EU through e.g. the GSP and the EU-ACP agreements (The Lomé Conventions, and now the Cotonou Agreement). Hence, when conducting empirical analysis, it is very important to accurately reflect the current preference schemes. In order to adequately reflect the preferences currently enjoyed by LDCs (such as the Lomé preferences provided to the ACP LDCs by the EU), for example, Ianchovichina et al. (2001) calculate the appropriate preference margins (relative to the MFN rates) from WTO tariff data and adjust the GTAP database to reflect these.

Kerkelä et al. (2000) have also amended the standard GTAP database by representing the preferential treatment of the ACP countries embodied in the Lomé Convention as the starting point for their subsequent analyses. Moreover, since they also analyse the consequence of granting the ACPs GSP treatment instead, they collect supplementary data on the EU's GSP scheme from the UNCTAD TRAINS database and make this compatible with the GTAP level of aggregation. However, the authors do not take explicit account of the fact that the commodities covered by the Lomé Commodity Protocols are regulated by quantitative trade barriers rather than just simple tariffs. For these sensitive products (sugar, beef and veal, and processed foods) the post-Uruguay Round tariffs are left untouched in the database.

In analysing the full EBA (as opposed to an SSA EBA in Ianchovichina et al. 2001) Bora et al. (2002) correct the GTAP database to reflect current preferences as well. More specifically, the standard GTAP database has been modified using original data from the UNCTAD TRAINS database to take account of effective preference margins. "For each Quad country, 1998 MFN and preferential tariff data at the HS6 line

have been aggregated into out GTAP sectoral definitions using world trade weights⁵¹ from the UN Comtrade data-base.” (Bora et al. 2002, p. 55) Yu and Jensen (2003) make the same adjustments so as to obtain the same starting point as Bora et al. (2002). One analysis of the EBA does not take account of these initial preferences. This is the study by Trueblood and Somwaru (2002). As can be expected and shall be seen in Section 4.5 below, the estimated welfare benefits of their EBA-simulations are several times higher than those of Yu and Jensen (2003) and Bora et al. (2002) (and Ianchovichina et al. 2001).

Another example of how modellers have adjusted the GTAP database to reflect existing preferential trade agreements is that of Teixeira et al.’s (2002) study of the trading options for Mercosur (completing an FTA with the EU or joining a Free Trade Agreement of the Americas). First of all, Mercosur is represented by eliminating agricultural production and export subsidies and import tariffs on intra-Mercosur trade. Second, the database is adjusted to take account of the common external tariff schedule of the bloc. As a further refinement, export taxes on primary and semi-manufactured goods in Brazil are eliminated due to an exemption provided through a special law known as Kandir’s Law.

The GTAP model and database come with a set of elasticities. Many studies adjust them upwards as a kind of ad hoc response to the critique that the Armington assumption generates too large terms-of-trade effects. Often elasticities of 8 and 4 are used for the lower-level elasticity of substitution between imports from different regions and the higher-level elasticity of substitution between aggregate imports and domestic products, respectively. Harrison et al. (2003) use even higher elasticities, namely 30 and 15, to convey less market power for exports. Following critique in the literature of overly large elasticities for developing countries, however, McDonald and Walmsley (2003) have chosen to lower the Armington elasticities in the GTAP database for developing countries. In any case, a new set of elasticities is being estimated for use in the GTAP model, c.f. Hertel et al. (2003b) and Section 5.1. below.

⁵¹ World trade weights are used instead of bilateral trade weights in order to avoid excessive underestimation of preferential tariffs. Particularly in Japan agricultural imports from LDCs are very low because trade barriers are almost prohibitive. Using bilateral trade flows as weights would lead to a substantial underestimation of the protection faced by LDCs in such cases.

Static CGE model analyses: Other global CGE models

It is not a straightforward task to represent non-tariff barriers in CGE models. The benefit of the GTAP database is that there is a common, generally accepted way of estimating ad valorem equivalents. Models that do not use this database often draw on the literature rather than estimate them themselves.

Brown et al. (1997), for example, use estimates drawn from the literature to add *ad valorem* equivalents of agricultural non-tariff barriers to the straightforward tariff rates, which are later assumed removed as a result of the FTA. However, for the EU's annual quotas limiting imports of textiles and clothing from Tunisia, due to lack of information on tariff equivalents, the authors simply assume that the EU quota restrictions are not binding. It is, however, possible to obtain information through the WTO about quota fill rates. If the quota is filled one can estimate the degree of bindingness by comparing domestic and world prices. Such information can be incorporated into a CGE model using mixed complementarity statements and by adjusting the database accordingly (see e.g. Pearson 2001).

Although some modellers take the trouble of representing the initial trade preferences given to and enjoyed by countries within the PTA being studied (c.f. the discussion above about the preferences already enjoyed by LDCs before the EBA), most studies do not take account of other preferential trade agreements than the one they are studying. One exception is the Harrison et al. (2003) study, which represents NAFTA as an effective free trade area in the database. Other regional PTAs are not, however, reflected.

Further to the discussion of elasticities, by using an AIDS specification instead of a CES specification, it is possible for Lewis et al. (2001) to use high elasticities of substitution between each SADC country and the EU as well as among the SADC countries. This has the effect of dampening the market power attributed to individual countries in a model where commodities are differentiated by country of origin according to the Armington assumption.

Static CGE model analyses: National CGE models

On the one hand, the data requirements for national CGE models are much less than for global CGE models. On the other hand, depending on the extent of detailed cover-

age of e.g. commodities, households, factors, government institutions, etc. the data requirements can become quite large. To give an example, the national SAM for Botswana used in McDonald's (2002) study is for 1993/94, and includes 38 commodity accounts, 34 activity accounts, 12 factor accounts, 7 household accounts, 8 government accounts, and 1 rest of world. The data set also comprises marketing margins.

There is a trade-off with respect to this detail, however. Many of the SAMs used for national models are rather old. The McDonald (2002) data is for 1993/1994, the Brown et al. (1997) data is for 1990, while Hoekman and Konan (1998) and Konan and Maskus (1997) use an Egypt SAM based on a 1989/1990 input-output table, although the latter SAM is updated to incorporate trade and tax policies and trade shares as of 1994. Similarly, Rutherford et al. (1997) must make do with a SAM for Morocco that relies on an input-output table dating back to 1980, albeit with updated protection data.

These updates notwithstanding, there is clearly a trade-off in terms of single-country detail. Because it is a significant task to produce a detailed single-country SAM requiring up-to-date input-output tables (that are not produced all that often and certainly not for developing countries), the result is often that analysts must make use of fairly old input-output tables and use more recent macro and other data to update them. Particularly for developing countries, it is expected that production structures may change rather rapidly over fairly short periods of time.

The benefit of adopting a single-country focus is of course that the database can reflect important country-specific details. For example, because of various exemptions in the Egyptian tariff schedule due to duty-drawback provisions and investment incentives, full revenue is not realised. Hence, Hoekman and Konan (1998) and Konan and Maskus (1997) scale the (weighted) tariff rates down by approximately 20% to obtain consistency with total import duty collections for the base year.

The study by Hoekman and Konan (1998) and Konan and Maskus (1997) on EU-Egypt agreement distinguishes itself furthermore by attempting to quantify the cost of regulatory barriers or 'red tape'. Due to lack of specific information about the size of such barriers, however, the authors are forced to make very simple assumptions such as assuming that frictional costs associated with customs-related 'red tape' equal 5% of the value of imports. Some of the (guess-) estimates are based on private sector surveys of fees and red tape costs, while others are simple assumptions. Crude methods are moreover used to reflect non-tariff barriers. Hoekman and Konan (1998), for ex-

ample, simply double the MFN rates on imports of textiles and clothing in their model of the EU-Egypt FTA.

These rather crude database modifications notwithstanding, there are some studies that do a fine job in incorporating single-country detail. In their analysis of the implications of the EU-Mercosur agreement and the FTAA on Brazil, Harrison et al. (2003) take as their starting point the GTAP database, but make a number of far-reaching adjustments. Most notable is the incorporation of 20 different types of Brazilian household: ten rural and ten urban. They pay careful attention to the correct capturing of factor shares and income mapping using household expenditure and income pattern data extracted from the Living Standards Measurement Survey for Brazil. The structure of demand is identical across households, but the elasticities of demand with respect to prices differ. In particular, the factor shares for Brazilian industries are estimated independently. This detailed representation of Brazilian household and factor distribution provides for a rich analysis of the poverty dimension of trade policy. The Brazilian part of the GTAP database is updated to a 1996 input-output table. The protection data are also altered. To reflect the Mercosur bloc, Harrison et al. (2003) apply the common external tariff in all cases (in spite of numerous exceptions). More specifically, they take the tariff rates of Brazil from the GTAP database as the common external tariff for all the Mercosur countries.

As with the other CGE models, the Armington elasticities used in the national models are typically drawn from the literature: e.g. McDonald (2002), Hoekman and Konan (1998), Konan and Maskus (1997). Rutherford et al. (1997) spend a substantial part of their paper analysing the sensitivity of the EU-Morocco FTA results to the choice of elasticities.

Quasi-dynamic and dynamic CGE model analyses

Just like the national CGE models, the dynamic CGE models also involve certain data trade-offs. For their model of the Egyptian economy, Dessus and Suwa-Eisenmann (1998) must resort to a fairly old SAM: this one is based on a 1991/92 input-output table that has been updated to 1995. For their quasi-dynamic model, Andriamananjara and Hillberry (2001) use highly aggregated data: 5 regions and 7 sectors. Wolf (2000) also constructs a very aggregate database consisting of just 5 regions and 6 sectors, where agriculture is split into staple foods and export crops. Moreover, the Social Accounting Matrix for the UEMOA (West African Economic and Monetary Union) is

based on a SAM for Côte d'Ivoire, while data for the rest of Sub-Saharan Africa are drawn from the GTAP database as cited in the literature. Tariffs and elasticities were also drawn from the literature.

Somewhat surprisingly, in all the PE and CGE applications reviewed here, there are only two that construct a baseline projection. Although this can readily be done using a static framework, it is only the quasi-dynamic model by Andriamananjara and Hillberry (2001) and the dynamic analysis by Dessus and Suwa-Eisenmann (1998) that provide baselines against which the PTA scenarios are to be evaluated against. Andriamananjara and Hillberry (2001) draw on World Bank forecasts of gross domestic investment, GDP, and population growth to construct an 18-year baseline. Dessus and Suwa-Eisenmann (1998) generate a fifteen-year (1995-2010) baseline projection based on assumptions so as to match the macroeconomic forecast proposed by the World Bank.

4.4. Scenario construction

The underlying hypothesis being investigated in the gravity model applications is fairly simple, i.e. to test for the influence of PTAs on observed trade flows. The hypotheses being tested using the numerous other ex post approaches are also fairly straightforward and indicated in the 'Purpose' column of Table 4. Hence, this section considers the scenarios investigated in the ex ante studies using PE and CGE models.

Rough approximations to the actual agreements

The first observation is that many studies make rather rough approximations to the content of the preferential trade agreements being simulated. High levels of data aggregation sometimes mean that the correct country group cannot be targeted. Because they are using an earlier version of the GTAP database (i.e. version 4 as opposed to the more disaggregated version 5) Ianchovichina et al. (2001), for example, must limit themselves to an analysis of the EU's EBA involving only a subset of the SSA countries because other LDCs are not split out into separate countries. Others deliberately choose to focus on specific parts of an agreement. Hoekman et al. (2002b), for example, focus on the elimination of tariff peaks within the framework of the EBA initiative.

Another important observation is that many of the studies do not explicitly take account of the exceptions and/or phase-in periods that many of the agreements have for specific (typically agricultural) products. One of the scenarios analysed by Ianchovichina et al. (2001), for example, simulates duty and quota-free access for all SSA exports to the US, which is viewed by the authors as a broad interpretation of the AGOA. Some do, however, attempt to reflect these exceptions. Kerkelä et al. (2000), for example, analyse the consequences of new EU-ACP relations after the Lomé Convention expires and is replaced by so-called Regional Economic Partnership Agreements (REPA). They analyse a free trade agreement between the EU and the Sub-Saharan African countries in which duties are removed on almost all trade. Due to the continuation of special protocols concerning sugar, beef and veal in the Cotonou Agreement, duties are assumed to remain in place for these products. The authors acknowledge that this is, of course, an abstraction, because the Cotonou Agreement envisages that different groups of ACP countries are assumed to negotiate specific (regional) trade agreements with the EU, and this will most certainly not result in a uniform EU-ACP trade policy regime. Strategic commodities differ among the different country-groups that make up the ACP group. On the other hand, this study attempts at least to reflect the sensitive products.

In case the REPA negotiations fail, the only possible alternative seems to be to grant GSP preferences to the ACP countries, and this scenario is also analysed by Kerkelä et al (2002). Compared with the Lomé preferences, this would of course mean an increase in the level of protection. Along similar lines, and also without going into any detail with regard to the specifics of the protocols of the Lomé/Cotonou agreements, McDonald (2002) investigates the effect of a reduction of the average beef export price that Botswana would experience if its preferential access to the lucrative EU market were removed.

Using a quasi-dynamic framework, Andriamananjara and Hillberry's (2001) study of the EU-South Africa arrangement can better capture the reality of the agreement, namely that the agreement is being phased in with asymmetric tariff cuts (both with respect to commodities, parties and timing). The authors shock the model with cumulative cuts in a 3-stage liberalisation rather than simply the total cuts as in the static models such as Lewis et al. (2001). Using a full dynamic model, Dessus and Suwa-Eisenmann (1998) can also simulate a phase-in of the tariff cuts of the EU-Egypt Partnership Agreement.

Simulation of hypothetical agreements

Another observation is that a number of studies construct hypothetical scenarios that may or may not be in the process of being considered in reality. As Brenton (2003) asserts, the EU EBA initiative has sent an important signal to other developed countries. He suggests that all OECD countries adopt such a policy and that this should preferably take place under the auspices of the WTO. Many of the studies reviewed here do in fact investigate the impact of EBA-like initiatives by other developed countries, e.g. the US, Canada and Japan. Ianchovichina et al. (2001) considers the provision of duty and quota-free access for all products from a subset of SSA to the US, EU, Canada and Japan, i.e. the Quad. Bora et al. (2002) also consider a hypothetical Quad EBA, but for all LDCs (recall that they use the more recent GTAP version 5 database). In addition to the EU EBA, Trueblood and Somwaru (2002) also consider a hypothetical US EBA. Hoekman et al. (2002b) use a PE model to assess the impact on LDCs of the hypothetical situation of all Quad members granting duty-free access to all LDC exports of tariff peak items. Lewis et al. (2001) also consider a hypothetical PTA. First, unilateral access to the EU market by the SADC countries, and then a reciprocal agreement, i.e. an FTA between the EU and the SADC countries. Others again construct purely hypothetical scenarios in order to investigate a specific aspect of the PTA debate. Stoeckel and Borrell (2001), for example, analyse the impact of rich countries providing full preferential access to non-Cairns Group developing countries in order to evaluate how such preferential arrangements compare with unilateral trade liberalisation by this group of developing countries.

Including elements of deep integration

The scenarios considered by Hoekman and Konan (1998) are notable in that they attempt to reflect the possible inclusion of deep integration elements in a PTA. They conduct a series of simulations that starts with a shallow partnership between Egypt and the EU, which gradually deepens by removing first simple frictional costs and thereafter more complex regulatory barriers that would require negotiation of mutual recognition agreements. Dessus and Suwa-Eisenmann (1998) also attempt to incorporate elements of deep integration in their analysis by having a scenario in which (a) the amount of capital transfers from the EU to Egypt is increased for a period of time (recall that this is a dynamic model), and (b) simulating a reduced risk premium faced by Egyptian exporters due to more secure access to the EU market by implementing a once and for all 2% increase in the prices of Egyptian manufactured goods. The authors state that the latter may also be interpreted as a harmonisation of standards. Also

related to various forms of deep integration, Wolf (2000) considers two possibilities of UEMOA governments to deal with the loss in tariff revenue associated with committing to an FTA with the EU: (1) The EU compensates for the loss through an aid transfer, and (2) The UEMOA governments compensate the loss through other domestic taxes.

Simulating alternative developing country supply responses

A number of studies consider explicitly the question of whether the developing countries can in fact respond to the preferences provided to them within the various PTAs. Trueblood and Somwaru (2002), for example, consider a scenario in which the LDCs have a lower supply response to reflect the concern that LDCs lack the supply capacity to actually exploit the new trade opportunities. Ianchovichina et al. (2001) take a more direct approach to the issue and compare the welfare implications for the SSA countries of an improvement in overall supply conditions with the implications of preferential access. In their study of the EU-Egypt agreement, Dessus and Suwa-Eisenmann (1998) perform simulations first with and then without (manufacturing) productivity gains as described earlier. In their analysis of the EU-Tunisia FTA, Brown et al. (1997) set up a series of scenarios to investigate the impact of the FTA under varying assumptions with respect to intersectoral capital mobility in Tunisia as well as varying assumptions with respect to the impact of the FTA on the inflow of FDI to the country.

Testing the value of PTAs relative to other forms of trade liberalisation

As discussed earlier, most studies restrict themselves to considering the impact of only the selected PTA of interest. Akinkugbe (2000), however, explicitly investigates the erosion of preferences to the EU market enjoyed by the ACP countries as a consequence of the EU-South Africa free trade agreement. A number of other studies consider the value of PTAs for developing countries compared to multilateral (MFN) liberalisation. To put preferential market access in perspective Ianchovichina et al. (2001), for example, consider the relative appeal of preferential access to the Quad markets compared with a new round of multilateral trade liberalisation. Hoekman et al. (2002b) also study the impact of a non-discriminatory (MFN) reduction by the Quad countries of all tariff peaks to a uniform 5% level (the Quad average). Considering countries that are partners to an FTA or that benefit from non-reciprocal trade preferences with the US, Wainio and Gibson (2003) investigate the erosion of prefer-

ences that would occur if the US were to reduce or completely eliminate its MFN tariffs on a subset of agricultural products using three different tariff-cutting formulas. As already mentioned, Stoeckel and Borrell (2001) analyse the impact of rich countries providing full preferential access to non-Cairns Group developing countries in order to evaluate how PTAs compare with unilateral trade liberalisation by this group of developing countries.

McDonald and Walmsley (2003) take a slightly different approach to investigating the value of PTAs. They set up a series of scenarios to challenge the implicit presumption in the literature that welfare gains from a PTA increase with the degree of trade liberalisation. Using the EU-South Africa free trade agreement as a case study, they investigate the optimal degree of agricultural trade liberalisation in a PTA between developed and developing country partners. This means that they have a non-conventional base case against which they measure the effects of liberalisation. More specifically, they define the base case as full liberalisation of all trade policy instruments for all non-food trade between the EU and South Africa, while all other global trade barriers remain unchanged. Then a series of simulations is conducted to find the 'optimal' degrees of liberalisation of agri-food trade by each partner for given rates of food trade liberalisation by the other partner.

Testing the values of PTAs in the light of agricultural policy reform in developed countries

Yu and Jensen (2003) are concerned about the erosion of the EBA preferences that the LDCs will experience as a consequence of EU CAP reforms that might result from increased pressure from WTO members. To this end they consider a set of scenarios in which the effects of the EBA with the current EU CAP is compared with a number of scenarios in which elements of the CAP are reformed. This is done in steps so as to reflect the relative importance of increased market access (i.e. EU's tariffs are reduced by 50% on a MFN basis), removal of export subsidies, and reducing domestic support by 35% (all domestic support, i.e. output subsidies, intermediate input subsidies, land and capital based subsidies). These scenarios are inspired by the recent Harbinson proposal for agricultural policy reform in the WTO context.⁵²

⁵² Although not a PE or a CGE approach, it is worth mentioning here that Chevassus-Lozza and Gallezot (2003) also investigate the impact of the Harbinson proposal, which among other reforms aims explicitly at reducing tariff escalation in agricultural tariff schedules by cutting tariff peaks. The Harbinson Proposal concerns the MFN rates, and will therefore have an impact on the margins of preference currently enjoyed by developing countries.

Teixeira et al. (2002) focuses on Mercosur's options of joining a FTA with the EU or joining the FTAA in the light of agricultural policy reform. More specifically, they analyse the impact of the two FTA options first without and then with a complete removal of the protectionist agricultural policies (i.e. complete removal all agricultural subsidies) in the EU and NAFTA, respectively. Albeit not in the context of preferential trade agreements, Hoekman et al. (2002a) investigate an issue that is of relevance to this topic. They study the relative importance of a 50% tariff reduction and a 50% reduction of domestic support to farmers across all WTO members.

4.5. Results

It is extremely difficult to compare the quantitative results of the many studies. Not only do they differ in terms of which agreements they are investigating, even for the same agreements there are large differences in methodology, data sets, and scenarios.⁵³ This section will nevertheless attempt to provide an overview of the most central results, primarily in qualitative terms, but also by providing illustrative quantitative examples. It is worth keeping in mind that the wide range of results reported here reflect a wide range of methodologies, and within each methodological framework the studies represent a wide range of model refinements, data adjustments, and parameter assumptions to reflect different assumptions about e.g. the functioning of factor markets, the initial tariff structure, etc. These considerations notwithstanding, each individual study with its own choice of methodology and data provides a structured way of thinking about the impact of PTAs that can help guide policy makers and future research efforts in this field.

Overall impact of PTAs

Consistent across both types of agreement (reciprocal and non-reciprocal) and methodologies being used to analyse them (ex ante and ex post), seems to be the careful conclusion that the overall impact of preferential trade arrangements on welfare and trade is non-negligible and generally positive, but also relatively small. To give just a

⁵³ In their literature survey covering just four studies of the EU EBA and EBA-like initiatives (which are also reviewed here), Achterbosch et al. (2003) warn that comparisons should be made cautiously. In reporting export change results, the one study (Ianchovichina et al. 2000) reports non-oil exports for least developed or highly-indebted countries in Sub-Saharan Africa, another study (Bora et al. 2002) reports worldwide LDC exports, and the third study (Hoekman et al. 2002b) reports LDC exports subject to tariff peaks. The results of the fourth study (Kerkelä et al. 2000) are not reported at all because they consider reciprocal granting of preferences.

few examples from the ex ante analyses, Wainio and Gibson's (2003) PE analysis shows that even under complete tariff liberalisation, US imports from beneficiaries of non-reciprocal arrangements and FTA-partners would increase by just 3.1%. Analysing the removal of tariff peaks facing EBA-beneficiaries also using a PE framework, Hoekman et al. (2002b) find that beneficiary country exports are expected to increase by just USD 185 million. Using a GE framework to analyse the EU-Morocco FTA, Rutherford et al. (1997) report benefits to Morocco of 1.5-2.5% of GDP, which are in the upper range of such results. To compare, Lewis et al. (2001) – also in a CGE framework and also analysing a reciprocal agreement, this time between the EU and South Africa⁵⁴ – report increases in real absorption (as a proxy for welfare) of 1.7% for South Africa and just 0.03% for the EU. But there are also studies that report very large welfare gains. Hoekman and Konan (1998), for example, report welfare gains ranging from 4% to 20% of real GDP from an EU-Egypt FTA if regulatory barriers and red tape are removed prior to the FTA.

Turning to the ex post analyses, some gravity models find that the PTA dummy is statistically significant (e.g. Nilsson 2002; Oguledo and MacPhee 1994), while others do not (e.g. Nogue and Staats 2003).⁵⁵ Estimating a gravity model equation for US imports, Oguledo and MacPhee (1994) find that the GSP scheme has enhanced trade flows between it and its beneficiaries. Given that this model also includes tariff variables, the significance of the preference dummy indicates that the impact of the GSP goes beyond what can be attributed to preferential tariff rates. Other factors that may influence bilateral trade flows may include institutional ties, non-tariff barriers and differences in competitiveness. Nilsson's (2002) gravity model estimation shows that historic ties to France, Belgium and the UK are important factors explaining EU imports from the ACP countries. The results of the ex post logistic growth function es-

⁵⁴ Lewis et al. (2001) consider an FTA between the EU, South Africa, and Botswana. Botswana is included because Botswana and South Africa are both members of SACU, and it is judged that it may be difficult to differentiate goods from those two countries.

⁵⁵ The results of the gravity model estimation by Nogue and Staats (2003) are very inconclusive. First, the estimate for the AGOA dummy variable is not significant in any of the regressions. Second, the overall explanatory power of the model is very low (R^2 ranges from less than 2% to about 13%), which stands in sharp contrast to the traditional empirical robustness of the gravity trade model. The year dummies included in the model are significant, which mainly tells us that SSA's agricultural exports to the US have intensified over the past five years without being able to explain why. Moreover, there are unexpected signs for a number of other variables, e.g. the coefficients for US GDP and the population of the African countries were both negative. The authors conclude that a few more years of additional data is what may be needed to provide for a more accurate and complete evaluation of the impact of AGOA. As it stands now, a substantial part of the variation in African agricultural exports to the US remain unexplained.

timations by Clark (1997) to analyse participation rates in the CBERA are consistent with the PE and CGE results. Beneficiaries do increase their shares of preferential exports in total exports over time, but the maximum observed share in the dataset was 13.6%, and so the author concludes that this indicates that without an expansion of the CBERA provisions, there is very limited scope for greater utilisation of the CBERA. Along similar lines, Shapouri and Trueblood (2003) find that there are a limited number of countries that have taken advantage of the AGOA programme.

The main explanation given in the studies for this relatively small impact of the various PTAs is that the beneficiary countries already enjoy low tariffs, typically through existing preferential arrangements such as the GSP (e.g. Wainio and Gibson 2003, Brenton 2003, Shapouri and Trueblood 2003, Hoekman et al. 2002b). In his ex post analysis, Clark (1997) actually shows that access to the GSP has had a negative effect on CBERA adoption rates. Furthermore, the gains from trade liberalisation may be small because they are spread over a long period of time. Using their quasi-dynamic framework, Andriamananjara and Hillberry (2001) take account of the phased implementation of the EU-South Africa agreement, i.e. over 12 years. The authors find that this planned delay of gains dilutes the benefits of trade when measured against other sources of growth. If the agreement had been scheduled as a big bang in 2000, they find that it would have accounted for 6.8% of total growth over the period 2000-2006 as opposed to just 2% using the long phase-in and adjustment period described earlier.

It is worth noting that the welfare of participating countries does not increase in all the studies. Hoekman and Konan (1998) find that if restricted to a shallow FTA, the result of the EU-Egypt FTA is a dominance of trade diversion effects and a welfare loss of -0.14% to Egypt. Since Egypt already has duty-free access to the EU market for manufactures, the loss in tariff revenue as a result of a shallow FTA would outweigh any trade creation effects. As another example, using a neo-classical closure, Kerkelä et al. (2000) find that the SSA countries actually experience a decline in welfare as a result of a hypothetical EU-SSA free trade agreement due primarily to a deterioration of the terms-of-trade. This result becomes a welfare increase when using an alternative closure with a fixed real wage and a flexible labour supply. This example shows very clearly that different beliefs about the functioning of e.g. factor markets in the developing countries can be an important determinant of the results of trade liberalisation scenarios.

Another way of appreciating the relative importance of the impact of a PTA is by comparing it to a baseline projection, which provides a useful counterfactual simula-

tion of how the economy would develop if the PTA were not implemented. As mentioned above, Andriamananjara and Hillberry's (2001) study of the EU-South Africa arrangement is one of the few that includes such a simulation. This baseline estimates a 71% growth in South African GDP over an 18-year period. Seen in this perspective, the estimated 1.4% increase in South African GDP as a result of its FTA with the EU (and assuming an increase in trade-related manufacturing total factor productivity) is very small (accounting for just 2% of total growth over the period), and can hardly be called an 'engine of growth'.

As another example of the importance of correct representation of the initial situation, it is useful to compare the results of three GTAP applications analysing the EU EBA. As already discussed in the data section, Trueblood and Somwaru (2002) do not take account of the preferences already received by the LDCs (through the GSP, the Lomé/Cotonou, and AGOA) and therefore the results of this analysis are most certainly upper bounds.⁵⁶ Indeed they find that the LDCs experience an increase in welfare of USD 2.5 billion as measured by equivalent variation. By comparison, Bora et al. (2002), who analyse precisely the same scenario, find that the welfare gains of the LDCs amounts to just USD 400 million. The reason for this difference is that Bora et al. (2002) have adjusted the initial database to reflect the initial preferences before simulating the EBA. Recall that Yu and Jensen (2003) have adjusted the GTAP database in precisely the same way that Bora et al. (2002) have done. Yu and Jensen (2003) find, however, that the EBA will lead to welfare gains to the LDCs of less than USD 300 million. What, then, explains this difference? The reason for this difference is to be found in the Armington elasticities. Using the standard GTAP elasticities and by decomposing the welfare gains by sector, Yu and Jensen (2003) observed that the large terms-of-trade gains experienced by the LDCs are primarily to be found in the manufacturing and services sectors. The authors assert that this does not seem plausible due to lack of competitiveness of such goods on world markets and due to structural constraints in these sectors. For this reason, Yu and Jensen (2003) have increased the Armington elasticities for these sectors for the LDCs. This dampens the

⁵⁶ Another reason that these results must be upper bounds is that the GTAP database uses bound rates if applied rates are not available.

terms-of-trade gains experienced by these countries, thereby resulting in lower welfare gains as compared with Bora et al. (2002).⁵⁷

Impact on participating countries

A pattern seems to emerge with respect to the impact of non-reciprocal and reciprocal agreements. The non-reciprocal agreements lead to (small) welfare gains for the beneficiary countries (Stoeckel and Borrell 2001), while the preference-giving country either experiences no change (e.g. Lewis et al. 2001) or loses slightly in welfare (e.g. Bora et al. 2002, Yu and Jensen 2003, Trueblood and Somwaru 2002, Ianchovichina et al. 2001). Supporting this conclusion, Hoekman et al.'s (2002b) PE analysis of providing duty-free treatment of tariff peak products shows that a hypothetical Quad-EBA would increase total imports into the Quad countries by just USD 177 million, implying that adjustment costs for Quad domestic import-competing industries would be negligible.

The studies of reciprocal agreements find that, in situations where the developing countries have been able to maintain high levels of protection prior to the FTA, there are considerable gains to be had for the developed country. Wolf (2000), for example, finds that creating a free trade area between the EU and the UEMOA would increase trade in almost all products and in both directions, but that the increase would be faster on the EU side because the UEMOA tariffs are initially much higher for agricultural products than are the EU tariffs. Trying to find the 'optimal' degree of agri-food liberalisation between the EU and South Africa, McDonald and Walmsley (2003) find that if South Africa is not able to induce the EU to liberalise agri-food trade, the welfare benefits of any trade agreement are very small. The EU, on the other hand, will gain substantially from a trade agreement with South Africa even if agri-food trade is excluded from the agreement.

Along similar lines, Freund (2003) finds that reciprocity is generally important in the construction of free trade agreements, with one important exception. That is in North-South agreements, where a modified form of reciprocity related to country size seems

⁵⁷ Bora et al. (2002) do not comment on the terms-of-trade effects at the sectoral level, but they report the terms-of-trade effects for the individual countries. They find that the strongest terms-of-trade improvements are experienced by small economies such as Malawi, Tanzania and Zambia. They explain that this is partly due to the Armington assumption, which means that trade policy shocks will be reflected to a greater extent in price changes for small countries whose supply response is more rigid.

important. A one percent increase in preferences offered by the big (small) country leads to a more (less) than one percent increase in preferences received. This confirms the notion that developing countries have less bargaining power and that because developing countries have not been required to make reciprocal concessions in multilateral negotiations, large countries may be using regional agreements to extract concessions. With the replacement of the Lomé Convention with the Cotonou Agreement, for example, the EU is replacing the non-reciprocal preferences previously given to the ACP countries with reciprocal free trade agreements.

Not surprisingly, all the studies that simulate an extension of the EU EBA to encompass the other three Quad countries (the US, Canada, and Japan) show that the welfare gains to the LDCs will increase markedly. As already discussed, there are a number of particularly sensitive products that would benefit from such an initiative, e.g. agriculture in Japan, and textiles, clothing and footwear in Canada and the US. Bora et al. (2002) report welfare gains for the LDCs that are up to 10 times higher than the EU EBA.

Impact on third countries

All studies find that there is some trade diversion. When analysing both the EU-Mercosur agreement and the proposed FTAA, Harrison et al. (2003) find that third countries will be affected adversely. Similarly, Stoeckel and Borrell (2001) find that Cairns Group developing countries are worse off to the tune of USD 1.1 billion of GDP is non-Cairns Group developing countries are granted preferential access to the high-income OECD countries. Hoekman et al. (2002b) find that non-LDC ACP countries and countries that are parties to FTAs with Quad members (e.g. Mexico) would suffer from trade diversion, but that this would only have a relatively small effect on the magnitude of these countries' exports. The other EBA and Quad-EBA analyses also show that there will be trade diversion effects (Ianchovichina et al. 2001, Bora et al. (2002), Trueblood and Somwaru (2002), and Yu and Jensen (2003)), but that these will be small in magnitude due to the small size of LDC exports. Bora et al. (2002) compute export similarity indices to identify which non-LDC countries are likely to suffer losses of market shares as a consequence of the EU's EBA initiative for LDCs. In terms of exports to the EU market, Bora et al. (2002) find that the highest similarity is found between African LDCs and African non-LDCs. Hence it is to be expected that trade diversion as a result of the EU's EBA is more serious for African non-LDCs than for other non-LDCs. Lewis et al. (2001) also find that the trade diversion

effects on third countries are determined by initial trade dependencies. At the sectoral level, Akinkugbe (2000) concludes that although the aggregate amount of trade diversion is not necessarily large, on a product by product basis, individual product lines may be significantly affected.

Most studies conclude that the trade creation generated by a given PTA outweighs the adverse trade diversion effects (e.g. Harrison et al. 2003, Lewis et al. 2001), but there are also cases where trade diversion exceeds trade creation (e.g. Wolf 2000). The studies also generally conclude that liberalisation on a multilateral, MFN basis would eliminate the adverse trade diversion effects (Harrison et al. 2003, Brown et al. 1997).

Importance of sensitive products

Several studies confirm the importance of the sensitive products that are either excluded from trade liberalisation or given long implementation periods. In the studies of the EU's EBA, the results show that most of the gains accrue from precisely the three sensitive products that are subject to lengthy transition periods. Hoekman et al. (2002b) find that the impact of the EU's EBA is significantly reduced if the three sensitive products are excluded – a result confirmed by Bora et al. (2002) and Yu and Jensen (2003). Investigating the sources of the welfare gains experienced by the LDCs Yu and Jensen (2003) show that a substantial part stems from positive terms-of-trade effects, which arise because the LDCs gain preferential access to the highly protected EU agri-food market. Along similar lines, Harrison et al. (2003) find that the gains to Brazil from the EU-Mercosur agreement are about 1.5 times greater than the gains from the FTAA. The primary reason relates to the significant terms-of-trade gains to be had if the EU continues to apply its high tariffs on other countries for its agri-food products.

Harrison et al. (2003) explicitly consider the realistic scenario that the EU excludes agriculture from the EU-Mercosur agreement (i.e. paddy rice, cereal grains, processed rice, other food products, bovine meat products, dairy products, other meat products and sugar). The gains to Brazil would be reduced to just 1/9 of the value of the gains with full preferential market access to the EU. This is because it is precisely in these highly protected agricultural and food products that the Mercosur countries have a comparative advantage. Similarly, in their analysis of the FTAA, they analyse the realistic scenario that the US continues to use antidumping to effectively exclude market access for Brazil to the most protected agricultural sectors in the US (i.e. oilseeds,

other crops, dairy products, and sugar).⁵⁸ In this case the gains to Brazil would be reduced to 2/3 of the gains in the case of full market access.

The impact of excluding agri-food products in the agreement with the US is not as severe as the impact of excluding agri-food products in the agreement with the EU for two main reasons. First, the tariff peaks in the EU are much higher than in the US. Second, other markets open up to Brazilian exports in the FTAA, which means that there would be alternative outlets for these goods in spite of US exceptions. The authors find that if the EU excludes their most protected agricultural products from the agreement, the FTAA will in fact be more valuable to Brazil than the agreement with the EU.

Other studies (e.g. Hoekman et al. 2002b, Bora et al. 2002, Ianchovichina et al. 2001) support the conclusion that product sensitivity is different for the different Quad countries, and that this will of course affect the resulting impact on different beneficiary countries. In the US and Canada, the main sensitive products are textiles, clothing and footwear. In the EU the sensitive products are plant-based fibres, livestock, meat and dairy products, and sugar-related products. Against this background, Hoekman et al. (2002b) conclude that it is mainly Bangladesh, Cambodia, Cape Verde, Haiti, Laos, Liberia, Malawi, Maldives, and Somalia that would be the main beneficiaries of Quad market access.

Also related to the issue of sensitive products, Shapouri and Trueblood (2003) conclude that for the AGOA to make a substantial impact on the SSA countries, tariff concessions should be given on processed agricultural products. Currently less than 10% of SSA's agri-food exports are processed. SSA countries could potentially increase these exports since they are producers of the raw materials such as coffee and cocoa. In their analysis of the extent to which tariff escalation is reduced or reinforced by the EU's PTAs, Chevassus-Lozza and Gallezot (2003) find that there are important differences depending on which products are in question.

Referring once again to the McDonald and Walmsley (2003) study, they find that South African welfare is maximised with the largest possible liberalisation by the EU, while limiting its own liberalisation to at most 40%. If South Africa is not able to in-

⁵⁸ Acknowledging that this is not a comprehensive treatment, Harrison et al. (2003) mimic the use of antidumping duties by not changing the US tariffs applied on exports from Brazil for these products.

duce the EU to liberalise agri-food trade, the welfare benefits of any trade agreement are very small irrespective of the degree of own unilateral liberalisation.

Seen from the perspective of the preference-giving countries and by using econometric models, DeVault (1996) analyses the GSP eligibility decisions made by the United States government concerning non-covered (i.e. sensitive) products. His results show that domestic industry opposition is more likely when a significant increase in imports is likely. Furthermore, as domestic opposition grows the probability that eligibility will be granted is significantly reduced. Even without domestic industry opposition, the probability that eligibility will be granted falls as increases in imports become more significant. Eligibility is more likely to be rejected when the petitioning country either discriminates against US products or if it is already a competitive supplier. In conclusion, DeVault (1996) stresses that his results show that domestic pressures do influence trade decisions of the US government.

As a final illustration of the sensitivity of selected products in the preference-giving countries, Hoekman et al. (2002b) conduct an experiment in which tariff peaks are eliminated on a non-discriminatory basis, rather than just for LDCs. The results show that the gains to the LDCs under the preferential scenario would be eliminated completely. Total imports by Quad members would expand from USD 117 million to a nonnegligible amount of USD 7.3 billion (primarily reflecting greater OECD exports), thereby highlighting the political difficulty of such a solution.

Impact on production structures and income distribution in developing countries

The benefit of analysing the impact of a given PTA in a CGE framework is that it is possible to identify the sectoral changes in response to the trade liberalisation. All the CGE analyses of the various agreements with the EU, for example, show a shift in resources from the manufacturing sectors to the agricultural and food sectors in the developing countries (e.g. Bora et al. 2002, McDonald 2002, Kerkelä et al. 2000, Harrison et al. 2003, Ianchovichina et al. 2001). The reason for this, of course, is that the EU's pre-PTA protection was against agricultural exports, and hence most of the action takes place in precisely these sectors in the developing countries. Indeed, Brown et al. (1997) conclude that the developing countries may face significant adjustment problems in connection with the substantial intersectoral shifts in labour and capital that these PTAs would imply. Yet, as McDonald (2002) rightly questions, are these countries in a position to actually realise the required structural changes?

Furthermore, as Topp (2001 p. 21) argues, “[p]erhaps the most damaging aspect of [...] trade preference agreements is the extent to which industries and even whole countries [...] become dependent on preferences. One of the main effects of preferences is that they divert resources in the recipient country away from other activities toward activities receiving a preference. As a result, the industrial base of the country becomes narrower, with a disproportionately large share of land and other productive resources being directed toward producing the preference receiving products.” Based on case-study analysis of three ACP countries, for example, Stevens (1990) finds that the agricultural “diversification” that has been taking place in these countries is into commodities that are particularly strongly protected in the EU and other OECD markets. As privileged exporters to these protected markets, ACP exporters gain part of the economic rent embodied in the high prices. This makes these countries vulnerable to external shocks to the preference receiving industries, including the removal of such preferences. So for the individuals and industries in developing countries that benefit from preferential access, there is a strong motivation to support the continuation of policies in preference giving countries that lead to higher prices. “In effect, industrialised country trade preference schemes allow their policy makers to expand the umbrella of their protection systems beyond domestic industries to also include favoured foreign suppliers” (Topp 2001 p. 22).

Moreover, this dependence on preferences and the higher ‘average’ prices received by producers in these sectors, often encourages the shifting of more resources into the preference-receiving sectors than is optimal. In turn, this results in high-cost, inefficient producers that will find it difficult to participate in new market opportunities. Finally, the high-cost agricultural sectors may have the effect of bidding up the price of scarce factors of production such as land, thereby making other agricultural sectors less competitive (Topp 2001) See e.g. Stoeckel and Borrell (2001) for case studies on sugar and bananas.

If sufficiently detailed, a CGE analysis can supplement the analysis of sectoral shifts in production and factor allocation by identification of the distributional and poverty consequences of trade liberalisation initiatives. One such detailed study is that of Harrison et al. (2003). Most of the trade policy options considered by this study – regional, multilateral and unilateral – show that there are progressive distribution gains to be had, so that the poorest households experience the largest percentage increase in incomes. The reason for this is a shift in resources from capital-intensive manufacturing toward unskilled labour intensive agriculture. Protection in Brazil favours manufacturing at the expense of agriculture and processed foods. Lifting this protection

shifts resources toward the agricultural and food sectors. This results in an increase in the wage of unskilled labour relative to other factors of production. The poorest households earn the majority of their income from unskilled labour. By performing counterfactual simulations, the authors actually prove that what is important in explaining why poor household gain more from the trade policy reforms is that the price of factors of production that are important to the incomes of the poor households rise more than proportionately. In other words, this study shows how important it is to have the correct factor shares at the household level represented in the database underlying the model. The results show that the internal resource reallocation (from manufactures to agriculture) is more important to the poor than improved market access. In the short run, some households could potentially lose (emphasising the importance of safety net policies), but in the medium to long run, the effects of trade reforms should work to the benefit of the poorest households. McDonald (2002) is another example of a CGE model with sufficient detail to draw conclusions about the impact on income distribution and rural poverty, thereby identifying potentially vulnerable groups of society.

Another type of adjustment that has to be made in the developing countries participating in reciprocal trade agreements is adjustment to the loss of tariff revenue, which in a developing country is often a very important source of revenue. Wolf (2000) finds that it is primarily the reduction in tariff revenue experienced by the ACP countries (more precisely the UEMOA countries) that is leading to the loss in real GDP. This is explained by the adverse effect that the lower tariff revenue has on government transfers to households and government spending, which in turn leads to an overall decline in demand. The reason is that the tariff reductions involved are asymmetrical because the UEMOA countries have high initial tariffs. Harrison et al. (2003) also calculate the loss of tariff revenue from the FTAA and finds that Brazil will lose over half of its initial tariff revenue from engaging in the FTAA, and conclude that authorities will have to come up with alternative taxes in order to avoid a worsening of the fiscal deficit.

Some studies explicitly simulate the use of other taxes to accommodate for the loss of tariff revenue. Rutherford et al. (1997), for example, presume that the rate of value-added tax (VAT) changes to accommodate the reduced tariff revenue as a consequence of the EU-Morocco free trade agreement and finds that the VAT would have to increase in Morocco by about 55-60%. On imports this would imply an increase in the VAT from 11% to about 16-17%. On domestic products this would imply an increase in the VAT from 3% to about 4-5%.

Wolf (2000) simulates the possibility of compensation by the developed country partner in her analysis of an EU-UEMOA free trade agreement to deal with the associated loss in tariff revenue. She finds that such an aid transfer will help maintain domestic demand. Moreover, UEMOA imports from the EU will actually increase compared to the previous situation without compensation, while EU imports from UEMOA would remain unchanged. Hence part of the aid flows may be ‘returned’ through increased trade. Wolf’s (2000) analysis also shows that it is difficult for the UEMOA countries to compensate for the loss in tariff revenue through increased domestic taxation, even if the agreement is phased in.

Domestic supply constraints and policy choices in developing countries

Further to the questioning by McDonald (2002) as to whether or not the developing countries are in a position to actually realise the structural changes that would be required in order to fully benefit from the PTAs, there are a number of studies that investigate such structural issues explicitly. As the results of the Kerkelä et al. (2000) study shows, it makes a difference whether there is a pool of surplus labour in the economy, or if the economy is already operating at full employment. Along similar lines, Lewis et al. (2001) conclude that the large increase in South African welfare reflects an increase in the labour supply (due to the non-standard labour market closure used in this mode) as well as an increase in allocative efficiency. Brown et al. (1997) find that the static welfare gains for Tunisia of an FTA with the EU ranges from a minor loss (-0.2% of GDP) to a gain of 3.3% depending on whether capital is assumed to be intersectorally mobile or not. They conclude that by relating capital mobility to the time horizon of the analysis, the EU-Tunisia FTA is expected to slightly reduce Tunisia’s aggregate welfare in the short run, but raise it in the longer run.

In terms of other trade-related policies and structural constraints it may be mentioned that Konan and Maskus (1997) find that a partnership agreement with the EU would provide welfare gains to Egypt in its own right, but implementing a prior reform that aims at reducing administrative ‘red tape’ would produce larger overall welfare gains. Hoekman and Konan (1998) report large welfare gains (ranging from 4% to 20% of real GDP) from an EU-Egypt FTA if regulatory barriers and red tape are removed. The results of Clark’s (1997) growth function analysis moreover confirm that availability of capital, labour and infrastructure are all important determinants as is previous growth performance. The latter is interpreted as an indication that government

policies that encourage economic growth are an important prerequisite for taking advantage of CBERA provisions.

Another structural determinant is the initial trade pattern. The asymmetric gains expected for the EU and South Africa in the study of Lewis et al. (2001), for example, reflect differences in initial trade dependencies. South Africa is heavily dependent on EU export markets (35.4%), and particularly so for certain agri-food sectors. In contrast, the EU sends only 1.2% of its exports to South Africa. This pattern is typical for many developed-developing country trading relations. Indeed, a number of analysts are concerned about export diversification (e.g. Shapouri and Trueblood 2003, Brenton 2003) and the underlying supply constraints (Trueblood and Somwaru 2002, Yu and Jensen 2003). Akinkugbe (2000), for example, concludes that to avoid the detrimental effects of the erosion of preferences, developing countries should diversify their export structure both in terms of commodities and destinations.

Related to domestic supply constraints and structural rigidities are the developing countries' own trade policy regimes. When considering the impact of Africa's own trade policy regime on the region's trade performance, Coe and Hoffmaister (1999) find that trade policies of the African countries are considerably less open than are policies of other developing countries, and that this has contributed to the relatively low levels of bilateral trade between African countries and developed countries. Hence they conclude that there remains considerable scope for unilateral trade liberalisation to spur trade between Africa and the developed countries, thereby increasing opportunities for technology transfers. Within a CGE framework, Harrison et al. (2003), for example, explicitly consider the impact of unilateral trade reform in Brazil in addition to regional initiatives such as the EU-Mercosur agreement and the FTAA. They find that both unilateral tariff cuts in Mercosur and tariff uniformity would yield significant benefits to Brazil. Also based on a CGE application, Stoeckel and Borrell (2001) conclude that developing countries stand to gain much more from their own unilateral liberalisation of trade barriers than from preferential access to protected markets in rich countries.

Özden and Reinhardt (2003) develop an econometric model to test the hypothesis that removing GSP preferences induces liberalisation of the recipient country's trade policy regime. Their results strongly support this hypothesis: "GSP recipients are roughly 15-20 percent more protectionist than countries no longer eligible." (Özden and Reinhardt 2003 p. 15). The results of this study have strong policy implications. As efforts are being made to enhance the 'special and differential treatment' of developing coun-

tries (such as through the GSP) within the multilateral trading environment, this study actually condemns such programs.⁵⁹ They find that countries still eligible for GSP treatment are less likely to liberalise their own trade policy, and that countries that dependent heavily on such preference are more resistant to liberalisation. The authors provide possible explanations for these findings. One of them is that in the presence of preferential access schemes, trade policy is ultimately determined by protectionist import-competing groups since exporters face low tariffs on their exports through the preference scheme. The bottom line of the Özden and Reinhardt (2003) recommendation is that developing countries should give up GSP and instead move in the direction of reciprocal trade agreements.⁶⁰ Yet, as discussed above, reciprocal agreements introduce new challenges for the developing countries that have not been required to bring down trade barriers at the same pace and to the same extent as developed countries through the multilateral GATT/WTO process. Participating in reciprocal PTAs will entail potentially significant losses of tariff revenue.

Dynamic gains from trade

As discussed earlier, some analysts conclude that one of the reasons why CGE models are not generating large numbers is that important new trade theory features, e.g. imperfect competition, increasing returns to scale, trade-productivity links, and other dynamic effects, are not being taken account of adequately. In Andriamananjara and Hillberry's (2001) quasi-dynamic CGE study, inclusion of trade-related productivity effects do increase the gains to South Africa from entering an FTA with the EU. GDP increases by 0.06% without productivity gains, but by 1.42% with productivity gains. However, allowing 18 years for full implementation and full adjustment to the agreement, the authors find that the contribution of the FTA on its own accounts for just 2% of South Africa's total growth over that period (as projected in a baseline simula-

⁵⁹ Note that 'special and differential' treatment consists not only of providing non-reciprocal, preferential access to industrialised countries' markets. It also relates to providing more lenient implementation schedules and lower commitments to countries with weak institutional capacities. Developing countries do indeed need assistance in terms of integrating into the world trading system because they often lack the resources, expertise and institutional capacity to implement and comply with WTO rules (Stoeckel and Borrell 2001).

⁶⁰ To this end, it is interesting to cite the findings of a study by Foroutan (1998), who investigates intra-bloc trade shares, trade intensities, and various indicators of trade policy to assess whether or not there is a systematic relationship between developing countries' participation in *reciprocal* PTAs (both with developed countries and with other developing countries) and trade liberalism. "It appears that the acceptance of a liberal trade policy may be a requirement for the survival and deepening of a meaningful RTA whereas belonging to a regional scheme constitutes neither a necessary nor a sufficient condition for an open and liberal trade regime." (Foroutan 1998, p. 10)

tion). Most of the expected growth relies, in fact, on the accumulation of factors of production. This latter observation helps explain why the assumed labour market closure is so decisive in the studies by Kerkelä et al. (2000) and probably also Lewis et al. (2001).

Others find more significant differences in results. Incorporating export-led externalities in their dynamic model, Dessus and Suwa-Eisenmann (1998) find that the welfare gains accruing to Egypt from its Partnership Agreement with the EU is markedly higher than without these externalities. Discounted equivalent variation in their dynamic model results in a gain of just 0.49% of GDP without these externalities compared with 5.24% with these externalities.

Although primarily illustrative, Brown et al.'s (1997) attempt to include FDI inflows in a static CGE model suggests that even a doubling annual FDI inflows into Tunisia as a result of an FTA with the EU is unlikely to make a significant boost to Tunisian welfare. Their conclusion is that unless FDI flows become considerably larger than the flow observed to date, FDI is not expected to make a noticeable difference to the economic success of the FTA. Also related to the issue of PTA-related investment, Clark's (1997) results show that there is not necessarily a strong correlation between prior average tariffs and CBERA adoption rates. The author interprets this result as indicating that gains made from tariff concessions were small relative to the gains from increased visibility among investors when the CBERA was enacted.

Notwithstanding the strength of the argument in the literature that CGE models should make allowance for dynamic efficiency changes and other new trade theory features, the few studies reviewed here generate ambiguous results. In some studies welfare gains are noticeably larger, whilst in others they are not. Perhaps most important is the finding – based on these few studies – that the qualitative conclusions based on the static models remain unchanged.

Benefits and costs of multilateral (MFN) liberalisation

From a global perspective (and theoretically) multilateral liberalisation is the first-best trade policy. In terms of explicitly considering the relationship between regionalism and multilateralism, Harrison et al. (2003) find that the apparent Brazilian strategy of simultaneously pursuing an EU-Mercosur agreement, the creation of an FTAA, and supporting multilateral liberalisation within the WTO, is a good one. The reason is, of

course, that Brazil is more likely to find the most efficient world supplier in the combined economic areas and therefore reduce any trade diversion effects. Given the likely exclusion of agriculture in the EU-Mercosur agreement, their results show that multilateral trade liberalisation will provide larger global welfare gains by a magnitude of more than 4 (in a scenario in which all countries in the world reduce their tariffs and export subsidies and taxes by 50%) than any of the regional initiatives investigated in this study. Moreover, as mentioned earlier, adding a unilateral trade policy change in the direction of tariff uniformity would add to these gains. Harrison et al. (2003) thus conclude that Brazil will fare best if pursuing all avenues, i.e. regional, multilateral and unilateral. Stoeckel and Borrell (2001) also conclude loud and clearly that full global multilateral trade liberalisation is a win-win situation that provides the greatest gains for all countries.

Developing countries are, however, worried that MFN liberalisation will harm them as the value of their preferences are eroded. Indeed, the results of some of the studies reviewed here do warrant this concern. Wainio and Gibson (2003), for example, find that countries that are highly dependent on preferential access to the US market will suffer from trade diversion and thereby lose market shares as a consequence of MFN liberalisation. Countries that do not currently enjoy preferential access will, however, gain from an MFN liberalisation. In the case of a multilateral 25% cut in MFN rates, Ianchovichina et al. (2001) find that the SSA countries will suffer from a shift in exports from the high-price Japanese market (preferential access assumed through a hypothetical Quad initiative) to other relatively low-priced markets, but that the impact on total SSA exports is insignificant (-0.2%).

These forward-looking PE and CGE analyses thereby suggest that erosion of preferences is something to worry about. What can be learned from past experience? Here the answer is more inconclusive. In their gravity model analysis of Africa's trade with developed countries, Coe and Hoffmaister (1999, p. 251) find that "... Africa actually overtraded with the North relative to other developing countries in the early 1970s, but the degree of overtrading has steadily declined over the past 25 years." The authors suggest that this is partly explained by the fact that Africa's trade preferences in Europe have eroded over the past two decades. This result stands in contrast to that of Nilsson (2002), however. Also using a gravity model, he finds that the estimated gross trade creation effects of the GSP and the Lomé Convention have *not* been eroded over the study period as a result of the declining EU's MFN tariffs as a consequence of multilateral GATT negotiations (and an increasing number of beneficiaries under the Lomé). The author contends that the reason for this is that the late 1980s

saw a reduction in the EU's use of non-tariff barriers, e.g. VERs and antidumping measures.

Benefits and costs of developed country (agricultural) reform

As mentioned several times earlier, developing countries are often quite dependent on preferential market access to the developed country markets. Through such arrangements, developing countries are able to exploit the high internal prices that are created by the developed countries' domestic agricultural policies such as the EU CAP and the US Farm Bill, and so enjoy benefits over other low cost producers in the rest of the world. Yu and Jensen (2003) explicitly consider the impact of reforms of preference-granting countries' agricultural policies on preference-receiving countries. More specifically, in their analysis of the EU's EBA initiative, they find that if the EU were to reform the CAP by increasing market access on a MFN basis, the preferences enjoyed by the LDCs would be eroded, and they would lose some of their export market shares for a number of products. Exports from the LDCs to the EU would actually decrease for some products. In terms of welfare, the LDCs would be worse off with an EU market access reform. The EU also loses marginally due to a worsening of its terms-of-trade, which outweighs the positive effects of improved allocative efficiency. Third countries, however, gain significantly, leading to a worldwide welfare gain of more than USD 10 billion. Eliminating export subsidies in the EU would primarily benefit the EU itself through budgetary savings and efficiency gains. Such a reform would not lead to significant welfare gains for the rest of the world. Food importing countries would, however, face higher import prices, and therefore since most LDCs are food importers, there are no obvious benefits to them from such a reform. Moreover, fewer exports from the EU would imply more intense competition in the EU market, which will not benefit the LDCs with preferential EBA access either. Domestic support reform of the EU CAP would lead to lower EU prices, and thereby reduce the terms-of-trade gains that the LDCs would otherwise enjoy through the EBA, but only slightly. There are still benefits to be had by the LDCs. Moreover, the EU will clearly stand to gain from such a reform and therefore be in a position to provide alternative assistance to the LDCs to offset negative impacts. Combining the three elements of EU CAP reform, the LDCs would clearly lose. The benefits will either be reduced substantially or in fact turn into losses.

Hence, the results of Yu and Jensen (2003) justify the concerns that developing countries have about preference erosion, and that the interests of the LDCs might be mar-

ginalized in the current WTO negotiations. However, retaining the CAP in its current form in order to keep the LDC preferences meaningful is clearly not the way to go according to these analyses. This option entails a significant distortion of world agricultural trade. Yu and Jensen (2003) show that global welfare gains from EU reform (the three reforms combined) would be almost USD 15 billion. About 2/3 of these gains come from market access reform, while domestic support reform accounts for most of the remainder. Removing export subsidies does not seem to generate significant gains for the rest of the world, although it increases EU welfare.

Although not dealing specifically with the PTA issue, Hoekman et al. (2002a) find in their analysis of the relative importance of tariff reductions and domestic support reductions that tariffs matter significantly more than subsidy policies. Moreover, LDCs are found to be significantly more sensitive compared with other developing countries to OECD support policies. Nevertheless, the overall conclusion is that reducing such support is important, but that it must be accompanied by tariff reductions. In terms of the connection between multilateral/regional liberalisation and unilateral liberalisation, Hoekman et al. (2002a) conclude that reducing domestic protection in the OECD countries may have a positive impact not only directly for net-exporting developing countries, but also by creating an political environment in which also the developing countries will feel confident in the welfare-improving prospects of liberalising their agricultural trade policy regimes. Hoekman et al. (2002a) make the important point that for developing countries, tariffs are often the only instrument of intervention they have available to respond to the effects of OECD domestic support policies.

Along a similar line of thought, in their analysis of the 'optimal' degrees of EU and South African liberalisation of agri-food trade, McDonald and Walmsley (2003) find that the EU has no incentive to fully liberalise its agri-food trade policies. The authors argue that this is a consequence of the combined policies of the OECD countries, particularly the EU, USA and Japan. If developed countries continue their current agri-food policies, it is not clear that developing countries are best served by fully liberalising their agri-food trade.

Summarising the results

Others have also surveyed parts of the empirical literature on preferential trade agreements, drawing conclusions about other PTAs than the ones selected for this present review. More recently, Burfisher et al. (2002), for example, surveyed the CGE

literature dealing with reciprocal free trade agreements such as NAFTA, Mercosur, EU-enlargement, APEC, and AFTA. They draw the following general conclusions: (i) welfare of participating countries increases, (ii) aggregate trade creation is larger than trade diversion, (iii) welfare gains are larger in models that incorporate features of new trade theory, (iv) extending membership increases welfare, and (v) global trade liberalisation increases welfare more than the creation of a PTA.

Based on this present review of the empirical literature dealing with primarily non-reciprocal agreements but also reciprocal agreements between the EU and the US on the one hand, and various groupings of developing countries on the other, the above-mentioned conclusions can only be made with modifications, and others can be added:

Impact of PTAs in their current form on participating countries:

- The impact on welfare and trade flows of participating countries is generally non-negligible and positive, although relatively small, and depends crucially on the initial trade and protection structures and specific model assumptions (re. e.g. the functioning of factor markets, the size of the Armington elasticities, etc.)
- Not all developing country participants benefit – supply constraints seem to be very important
- Developing countries face substantial structural adjustment challenges in response to PTAs
- Trade diversion can be an issue, particularly for specific sectors and countries
- Developing countries will lose tariff revenue when joining reciprocal PTAs

What changes would boost the beneficial impact of PTAs on participating countries:

- The greatest potential gains for developing countries lie in the liberalisation of trade in what developed countries see as being sensitive products
- Extension of non-reciprocal trade liberalising initiatives to other developed countries increases the welfare of beneficiary countries
- Domestic trade-related reforms in the developing countries would help ease the necessary structural adjustment process in response to PTAs
- Incorporating deep integration elements (i.e. new trade theory features) generates larger welfare gains, but not necessarily significantly larger

Regionalism in relation to multilateralism and nationalism:

- Multilateral liberalisation is the preferred approach, but erosion of preferences for developing countries is an issue
- National agricultural policy reform by OECD countries is also desirable, but erosion of preferences for developing countries is an issue here too
- Developing countries have a lot to gain from unilateral liberalisation of their own economies.

5. Evaluation of the state of the art and identification of future steps

5.1. Evaluation of the existing empirical literature

Gravity models

The gravity model applications surveyed here add more or less elaborate refinements to the simple gravity model, and some try to address specific methodological critiques such as Nogue and Staatz's (2003) use of a fixed-effect structure to capture unobserved country-specific effects.⁶¹ One of the strengths of gravity models is their relatively limited data requirements. On the other hand, several of the models suffer from the omitted variable bias. To give an example, Martínez-Zarzoso and Nowak-Lehmann (2000) estimate the potential for bilateral exports from each of the Mercosur countries to the EU and compare this with actual exports for each year in the sample. They find that in several cases estimates of potential exports exceeded observed exports. Furthermore, when including time dummies, which capture the effects of non-included variables that vary over time and are constant across trading-pairs, they are significant. Clearly, the model suffers from the problem of unexplained factors. The trade-off, of course, is that by including additional explanatory variables, one loses the benefit of low data requirements. Related to the issue of omitted variables is the interpretation of the included variables. One should be cautious when interpreting the dummy variables used to denote a country's participation in a particular preferential trade agreement since it also captures the influence of other contemporaneous factors. Ideally, additional variables that control for such effects should be included when they can be properly identified.

Gravity models are not always very informative. As discussed above, the analysis of the AGOA by Nogue and Staatz (2003) is disturbingly weak. The explanatory power of that model is much lower than usual gravity model analyses, and the PTA dummy is not significant in any of the model estimations. Other gravity model studies such as that by Martínez-Zarzoso and Nowak-Lehmann (2000) provide interesting policy-related conclusions that can be used in a broader PTA discussion. The authors find that the exporter infrastructure variable included in their model is significant and positive (i.e. fosters bilateral exports to the EU). Hence, investments in improving the in-

⁶¹ The simple gravity model assumes homogenous goods. More realistically, goods are heterogeneous to some extent. By not being able to take account of product heterogeneity, "gravity models tend to underestimate the regression coefficients between high-volume traders, while overestimating them between low-volume traders." (Nogue and Staatz 2003 p. 9)

frastructure of the Mercosur countries would seem to increase the trade creation effects of a potential EU-Mercosur agreement, thus pointing in the direction of including deep integration issues in this agreement.

Other ex post techniques

Due to the varied nature of the other ex post studies reviewed here, just a few general comments will be made. Several studies use regression analysis (other than the gravity model) to analyse various aspects of preferential trade agreements. Just like with the gravity models, it is important to be cautious about the interpretation of the variables included. In particular, the use of quantitative proxies for inherently qualitative factors runs the risk of not capturing what is intended, thereby leading to erroneous interpretations. DeVault (1996) finds, for example, that the cost of domestic industry opposition to the granting of preferences to developing countries for sensitive products is not an important determinant of opposition decisions, but this may well be because the variables chosen to represent opposition costs are poor proxies for these costs, rather than that such an effect is absent.

Another fairly common technique is the calculation of Effective Rates of Protection (ERPs). Here there is a conceptual problem in that ERPs rely entirely on the vertical production structure and technical transformation from primary products to processed products, while substitution between factors of production is not permitted. This limitation generally also characterises the partial equilibrium approach, to which we now turn.

Partial equilibrium models

In its most simple form, a partial equilibrium model focuses on a single sector or even a single commodity. The main reason for choosing to use a PE model is the possibility of a high degree of detail in terms of sectoral and/or country coverage. This is indeed what the PE studies surveyed here achieve. In principle, the simpler framework (as opposed to the CGE framework) should also induce more efforts being put into careful estimation of key behavioural relations and precise representation of structural aspects, institutional features and policy regimes characterising the sector of interest (as we shall see, one of the critiques against CGE models). However, this has not been a priority in the studies surveyed here. On the contrary, a few of the models have been reduced to just one or two equations.

The important difference between the PE and CGE approaches is that in a partial analysis, supply and demand responses in a given market are implicitly conditional on other prices and/or quantities in the economy being fixed. If several product markets are being analysed, each product is treated separately and there are no cross-elasticities in the model. Indeed, PE analysts acknowledge that input-output relationships among products and substitutability in production between inputs are important, but that if the sector being analysed is small enough, the impact of policy changes will generally be limited to that sector, and therefore the cost of ignoring its relationships with other sectors (both directly through input-output relations and indirectly through the competition for factors of production) is not too serious (e.g. Winters 1990). Moreover, partial models are characterized by an apparent transparency and hence results may be easier to communicate.

Using the Japanese GSP as an example, Brown (1989) finds that there are three main differences in the results of evaluating the scheme using a CGE approach and a PE approach: (i) Gross trade creation appears to be smaller using a CGE approach. (ii) Trade diversion appears to be stronger in a CGE approach. (iii) Non-reciprocal PTAs may induce welfare losses to the donor and also to some beneficiary countries. The reasons for these differences are that CGE models take account of changing terms-of-trade, factor prices, and exchange rates. The third effect is explained by the very second-best nature of many PTAs, where sensitive goods are often excluded, and these are often precisely the goods that the beneficiaries have a comparative advantage in. Thus PTAs may lead to a counterproductive shift in the specialisation pattern of the beneficiary countries, since resources are redirected to comparatively less efficient sectors (Bora et al. 2002). Capturing such reallocations of factors of production across sectors is one of the key features of the CGE approach.

General equilibrium models

The major benefit of using CGE models to analyse the probable impact of a preferential trade agreement is that they capture bilateral trade flows, input-output relationships, factor market effects, price and quantity changes, and welfare impacts. Moreover, in principle at least, the economy-wide nature of these models allows for an appropriate representation of the second-best initial situation, where distortions may exist in other product markets than the ones being liberalised, and distortions may exist in the factor markets. Moreover, this is achieved within a framework that rests on a consistent foundation of microeconomics and classical trade theory.

Comparing with the degree of sectoral and country detail achieved within the PE frameworks surveyed here, it is clear that the CGE models do indeed operate at a higher level of aggregation. This is one of the trade-offs to be made by CGE modelers. Nonetheless, there are several examples of CGE studies that do incorporate significant amount of country detail (e.g. Harrison et al.'s (2003) detailed description of Brazil within a global model) and sector-specific policy and institutional detail (although not related specifically to the PTA debate e.g. Frandsen et al.'s (2003) EU sugar policy analysis). So the conclusion is that it is possible to include such detail, but it requires a substantial amount of data and modelling work. Moreover, it should be mentioned that the many studies using the GTAP database have the benefit of an increasingly detailed database that is updated on a regular basis. Also comparing with the PE approach, a major drawback of CGE models is that they still sometimes remain a black box to users because of their sheer size, which makes it difficult to pinpoint the precise source of particular results. An example is the comparison of the essentially identical analyses of the EBA by Yu and Jensen (2003) and Bora et al. (2002) using the same core model and the same (adjusted) database. A closer investigation revealed that the difference in results most probably lies in different assumptions concerning the size of the Armington elasticities (an aspect that will be returned to shortly). Clearly, there is a challenge for CGE modellers to explain thoroughly the assumptions underlying their results. Ideally, they should be replicable by others.

Starting with the product markets, almost all the CGE models use the Armington approach to describing two-way trade (i.e. intra-industry trade) according to which goods are assumed to be differentiated by country of origin. (Several of the more elaborate partial equilibrium models also use this approach, and hence the caveats mentioned here are relevant for those types of models as well.) Being the sole producer, this gives each country some degree of market power in each product market. One of the critiques against CGE models is that this assumption leads to excessive terms-of-trade effects (Schiff and Winters 2003, Panagariya and Duttagupta 2001, Panagariya 1999). Terms-of-trade changes arise in analytical models that either use large country assumptions or in models with differentiated products. Brown (1987) asserts that the large terms-of-trade effects are indeed an inevitable consequence of the Armington assumption and its implicit presumption that each region has some degree of market power associated with its nationally differentiated product. Several of the studies reviewed here do find that large terms-of-trade effects are driving the results. In particular, the developing countries seem to gain a lot from positive terms-of-trade effects due to access to higher prices on developed country markets. Furthermore, with the Armington assumptions, a country can exercise its market power for

their exports by imposing a tariff, thereby reducing its export supply and achieving a terms-of-trade gain. Hence even small economies can have non-zero optimal tariffs as the analysis by McDonald and Walmsley (2003) shows. The Armington assumption is, nevertheless, a practical way to introduce intra-industry trade in such models.

Arguments can be made both ways as to whether or not each region in a model is truly 'large' (or truly 'small') in the standard trade theory sense so that its policy choices affect (or do not affect) the results. There is clearly scope for more reflection as to whether the terms-of-trade effects these types of models are generating are excessive. What this means for the overall results of the CGE model simulations is uncertain, however, since there are other aspects of the existing CGE analyses that may underestimate the effects. Most CGE models are static, for example, thereby missing the potential dynamic gains from trade liberalisation, and new trade theory issues are typically not included. Both these issues will be addressed shortly.

Another inherent weakness of the Armington structure is that if there is no (or only very little) initial trade, trade liberalisation will not be able to create any (or only very little) trade, even if very high elasticities are chosen. Among the studies reviewed here, there is one exception to the Armington assumption. Within each product category (HS 6-digit level), Hoekman et al. (2002b) assume that goods are perfectly homogenous. Although it may be argued that this is a more plausible assumption, particularly at the HS 6-digit level, Hoekman et al. (2002b) end up in similar problems. In their PE model, changes in export revenue are a function of current export levels, which means that estimated export growth will be very limited for countries that do not export much of a specific product in the base period. Hence this will tend to underestimate the potential for export growth. The authors run simulations with higher export supply elasticities for which preference margins are larger than 30%.

In general, CGE models are criticised for having weak econometric foundations (McKittrick 1998 and Jorgenson 1984). As the present literature review has shown, most CGE modellers draw elasticities and other parameters from more or less outdated econometric work, and that may be more or less suited to the level of aggregation used in the CGE analysis. One exception is Hoekman et al. (2002a), who have estimated their own elasticities for use in their PE model simulations. A closer look at the parameters being used by CGE models is indeed warranted. Furthermore, as Koopman (2002) argues, it is the relative Armington elasticities across countries (and commodities) that matter. Raising them all will not eliminate the market power issue (Brown 1987). So in essence, it is not a question of whether the Armington elasticities

are too high or too low that is of interest, but rather how might they differ across countries (as well as across commodities)? In particular, there is no a priori reason to believe that the elasticities should be the same for all countries. In essence, what Koopman (2002) is recommending is a systematic estimation of such elasticities.

Addressing this concern explicitly, Hertel et al. (2003b) use the FTAA as an example to demonstrate that it is possible to provide a substantial statistical underpinning to CGE policy analysis. They use a unique data⁶² set to econometrically estimate the import substitution elasticity among imports from different countries. This elasticity is important when analysing PTAs because it governs the extent to which non-PTA countries will be displaced by the preferential reduction in trade barriers. Moreover, the elasticities are estimated at the commodity aggregation level that is subsequently used in the CGE model in order to avoid matching problems that are very common. They find that some of the CGE analysis conclusions are robust to different elasticities, whereas others are not. Hence this underlines the great potential for further econometric estimation of elasticities and other parameters for CGE-based policy analysis. In the mean time, many analysts perform systematic sensitivity analysis (see e.g. Arndt 1996) to test the robustness of their results to varying assumptions about the key parameters (e.g. Ianchovichina et al. (2001), McDonald (2002), Rutherford et al. (1997) and Harrison et al. (2003)).

Another concern about the current CGE models relates to their choice of functional forms. Panagariya (1999) argues that the widespread use of CES utility functions, Stone-Geary utility functions or the linear expenditure system to represent demand greatly limits the possibilities of substitution. He argues that there are situations in which FTAs may be harmful if the partner's product shows a high degree of substitutability with that of the non-member country but low substitutability with the PTA partner country, and that the typical CGE model cannot capture this possibility.

Moving to another issue, very few of the studies reviewed here attempt to explicitly model important non-tariff barriers related to the PTAs being investigated. Most of the time, tariff-equivalents of such barriers are thought to suffice. In other cases, more or less ad hoc ways are chosen to deal with such barriers. For their model of Morocco, Rutherford et al. (1997) assume for two sectors (meat & dairy and sugar) that imports and domestic products are perfect substitutes. The reason for this assumption is that

⁶² The dataset includes variation in bilateral transport costs and bilateral tariffs to enhance the observed variability of relative price for imports from different sources in six FTAA countries and one non-FTAA country.

initially there are no imports because of prohibitive non-tariff barriers. By modelling them as perfect substitutes, removing trade barriers would substantially increase the import share. To avoid excessive resource movement, the authors then assume sector-specific factors of production in the homogenous goods sectors. It seems that it would be more appropriate to consider direct modelling of the non-tariff barriers in these sectors rather than choosing this ‘dirty fix’ to generate the desired supply response.

With relation to factor markets, most of the CGE modellers assume perfect factor mobility between sectors. Clearly, many developing countries have difficulties in reallocating resources, and therefore the supply response to the preferences may be overstated. A few studies do in fact investigate the effects of limited capital mobility, e.g. Brown et al. (1997) and Hoekman and Konan (1998). Moreover, it is often readily assumed that developing countries can actually reach the markets that are being opened to them. Often the lack of efficient transport and distribution networks pose significant impediments to developing countries’ exports. Some analysts try to reflect such supply constraints, e.g. McDonald (2002), Trueblood and Somwaru (2002), and Hoekman and Konan (1998).

Most of the CGE models reviewed here are static comparative and cannot - by definition - capture potentially important dynamic effects of PTAs such as the investment flows (e.g. FDI) that may be encouraged as a result of involvement in such an arrangement. Another potentially important dynamic effect is the change in comparative advantages, which may occur if preferential trade agreements provide developing countries with a breathing space in which they can learn-by-doing and become competitive in new areas.⁶³ Related to these dynamic effects are the other new trade theory effects that only a few studies try to capture in more or less elegant ways, e.g. the potential link between productivity and trade. Itakura et al. (2003) addresses this issue by incorporating recent econometric evidence of such linkages into a dynamic version of the GTAP model to analyse a recently proposed East Asian FTA. They investigate three possible productivity-enhancing effects: import competition (procompetitive ef-

⁶³ There is a risk, of course, that preferences may lure developing countries to specialise in products in which they do not have a global comparative advantage (Ianchovichina et al. 2001).

fects), increased exports⁶⁴, and increased foreign direct investment (technology transfers and spillovers). Their results show that conventional CGE effects still dominate the outcome. In most cases the productivity effects reinforce these results, but there are instances where incorporating productivity effects actually reverse the direction of change. Clearly, there is scope for better understanding such effects and deriving ways on including them into CGE models.

CGE models are often used to advise policy makers, and to ensure the credibility of their results it is necessary to evaluate their performance against actual experience. One critique of CGE models is that they are not adequately reflecting the dramatic increases in trade that are being observed, and so there is a particular need to determine what other important non-PTA-related policy changes are taking place (Kehoe 2002). The study by Francois (2000) provides an example of how CGE-based assessments compare with actual experience from trade liberalisation. He compares the experience from the Uruguay Round four years after implementation began with a number of CGE analyses four years before.

5.2. Identification of areas for future empirical research

Irrespective of the choice of methodology, this section highlights a number of important aspects of preferential trade agreements and issues related to them that the empirical studies surveyed here do not take adequate account of and which should therefore be included in future research initiatives.

First and foremost, virtually all the studies acknowledge the problems that developing countries have in terms of actually making full use of the preferences given to them through such arrangements. Less encouragingly, though, is the observation that very few studies explicitly try to model the underlying features of these agreements that are causing this less-than-complete utilisation. The most cited reason is restrictive rules of origin, but also the threat of contingent protection measures such as anti-dumping measures, countervailing duties, and safeguard actions may limit the extent to which developing countries are making use of the provisions (e.g. Ianchovichina et

⁶⁴ There is very little theoretical literature on export-productivity linkages, and clearly there is a fundamental problem of causality. "Are exporters more productive because they export, or are they exporting because they are more productive?" (Itakura et al. 2003 p. 8) Recent econometric evidence used in Itakura et al. (2003) finds that while exporting does not necessarily increase productivity by itself, exporting is associated with the shifting of resources to more efficient firms. Moreover, firms that start exporting tend to have higher productivity levels than those that do not export at all.

al. 2001, Hoekman et al. 2002b). Rules of origin are particularly restrictive for simple manufactured goods (e.g. clothing) and for processed foods, i.e. precisely those products where export diversification may be feasible for developing countries (Brenton 2003). A recent UNCTAD (2001a) report critically examines the market access constraints faced by the LDCs, particularly as they relate to tariffs and rules of origin. The report summarises the current utilisation of the GSP schemes and identifies four main factors underlying the poor rate of utilisation. These are (i) Lack of security of access, (ii) Insufficient product coverage, (iii) Excessively stringent rules of origin, and (iv) Lack of understanding or awareness of the preferences available and the conditions attached.^{65,66}

Ignoring these constraints to full utilisation of preferences has important implications for the credibility of the results of the empirical studies. If (implicitly) assuming full utilisation of preferences under the PTAs, model simulations will overstate the economic benefits of such agreements. Conversely, the estimates of preference erosion following multilateral liberalisation will overstate the adverse impact on beneficiary countries. Information provided by Brenton (2003) suggests that for a number of ACP LDCs, the Cotonou Agreement seems to be the preferred method of accessing the EU market. This may of course reflect some inertia and lack of knowledge of the new Everything But Arms initiative, but it may also reflect the more liberal rules of origin under the Cotonou Agreement. It would be useful to investigate quantitatively the impact of more liberal rules of origin. In particular, what are the effects on the share of value-added originating in the exporting country? CGE models allow for trade in intermediates, and therefore without explicit representation of rules of origin, the model shifts value-added from non-beneficiary countries to beneficiary countries reflecting the assumed full utilisation of preferential access. In reality, rules of origin often specify minimum value-added shares performed in the exporting country as a condition for preferential treatment. Hence, ignoring this conditionality will lead to an overestimation of the effects of PTAs on the beneficiary country. (Bora et al. 2002)

⁶⁵ Other conditions related to e.g. labour or environmental standards may also be limiting the benefits of preferential access.

⁶⁶ By simply examining the apparel export performance of SSA countries to the US since the imposition of AGOA in 2000, Mattoo (2002) concludes that there has been a substantial increase, both in value and quantity terms. The least developed beneficiary countries have recorded the most impressive gains. This is taken to highlight the restrictive nature of the rules of origin, which don't cover the least developed countries until after 2004. The author also interprets this as a caution for what may be awaiting the least developed countries after 2004, i.e. their export growth may be considerably dampened.

Not relating to a specific PTA, Somwaru and Skully (2003) provide an example of how contingent protection measures such as the ones mentioned above can be brought into CGE models. They use a dynamic model to analyse the effects of allowing developing countries to use special safeguard mechanisms (SSMs) for sensitive agricultural products. They test two alternative specifications of SSMs: In the first case the safeguard is modelled as a fixed expected *ad valorem* tariff equivalent. In the second case the safeguard is modelled as a stochastic instrument, constructed so that the expectation and long-run observed mean of the additional safeguard tariff is the same as the fixed expected-tariff case. They find that the stochastic SSM results in lower welfare than the static SSM. Furthermore, although the welfare cost of SSMs is relatively small, the analysis finds that SSMs impose a greater welfare loss on developing countries – the advocates of SSMs in this case - than on developed countries. Hence, there are examples of studies that address these types of issues in an empirical modelling framework.

In addition to ignoring constraints related to the agreements per se, there is a need to understand the domestic supply constraints within the developing countries. A few studies experiment with various labour market closures and different degrees of capital market flexibility, but institutional aspects are often ignored completely or rely on highly stylised representations and simple data assumptions. In an attempt to quantify the impact of regulatory barriers to trade in the context of an EU-Egypt partnership agreement Hoekman and Konan (1998), for example, must rely on (guess-) estimates of the size and nature of such costs. There is not much reliable information on such costs, yet given the apparent importance of such barriers on the benefits from trade agreements, there is a need to know more about the size of such regulatory costs, whether elimination of such barriers can be done unilaterally or if that requires negotiation of e.g. mutual recognition agreements, and whether such barriers are rent-creating or ‘just’ frictional in nature. This will most probably require in-depth country studies.

One of the stated objectives of the many non-reciprocal and reciprocal agreements between the OECD countries and the developing countries is to help the developing countries develop. Development is of course a broad term, but the ultimate goal of development must be to eradicate poverty and ensure a certain degree of equality within a society. However, in analysing the effects of preferential trade agreements, only a few analysts try to draw conclusions about the poverty and distributional consequences of these agreements. For an example of how poverty analysis can be performed in the context of (multilateral) trade liberalisation and using a global CGE

modelling framework, see e.g. Hertel et al. (2003a). See also Topp (2001 p.1) for a broad discussion of the question: “Are trade preferences helpful in advancing economic development in poor countries, and even if they are, might there be other measures that would be more effective and efficient?” Stoeckel and Borrell (2001) contend that preferential trade agreements distract attention away from the main issues of development and poverty alleviation. “The path to prosperity in developing countries lies mostly in tackling difficult domestic reforms such as secure property rights, a well functioning financial and legal system, better governance, open trade and investment and better education.” (Stoeckel and Borrell 2001 p. viii).

As already stated earlier, although new trade theory effects are increasingly finding their way into CGE models, there is a need for both theorists and empiricists to better understand these effects, i.e. how trade may lead to increased competition, improved investment opportunities, enhanced utilisation of economies of scale, technology spillovers, productivity gains, increased specialisation, etc. Worth (1998), for example, investigates the impact of PTAs on foreign direct investment (FDI) and finds that in the cases of NAFTA and Mercosur, it is other domestic policy reforms that are important in influencing investment rather than the creation of the regional trade agreement itself. In the case of AFTA, however, it seems that large increases in FDI and trade in the region actually led to the agreement rather than the other way around. Bolling (1998) analyses US FDI in the food processing industries in three major PTAs: EU, Mercosur and NAFTA, and also concludes that other factors than trade liberalisation are at play: economic growth, market size and changing consumer tastes. It is recognised, however, that a PTA can of course affect these factors. There is a need to understand the trade-investment linkages in the context of the PTAs dealt with here, i.e. in the context of non-reciprocal and reciprocal agreements between OECD countries and developing countries. A particularly relevant question to look into is whether PTAs are a superior instrument for encouraging FDI compared with non-discriminatory MFN liberalisation?

Another important link to get a better handle on is the link between trade and productivity in developing countries. There is a growing body of empirical literature that attempts to quantify such linkages, e.g. Coe et al. (1997) analyse trade-productivity links for 77 developing countries, while Frankel and Romer (1999) analyse a 98 country sample. Not all are convinced that this link is very strong, though. Rodriguez and Rodrik (1999), Edwards (1993), Temple (1999) and Baldwin (2003), for example, are all sceptical about the empirical work in this field because of the variable data quality and problems related to the empirical methodologies being applied. Clearly, more

empirical analysis is called for, not least to find appropriate ways of testing the applicability of this new growth theory.

Several of the studies surveyed here compare the impact of preferential trade liberalisation with non-discriminatory, MFN liberalisation.⁶⁷ Yet the MFN liberalisation being simulated is typically hypothetical in the form of e.g. 50% or 100% cuts. More appropriate would be the comparison of preferential trade liberalisation with what has actually been achieved through e.g. the Uruguay Round or hypotheses about what may be achieved through the Doha Round. One study that does this for PTAs not dealt with here is by Gehlhar (1998). Examining the welfare impacts of NAFTA, FTAA, EU enlargement, and APEC, he concludes that PTAs contribute more to global welfare than did the Uruguay Round. This result is obtained in part because the PTAs analysed in that study were assumed to achieve full trade liberalisation in all sectors, while the Uruguay Round only achieved partial liberalisation. Once again, it must be stressed that it is important to reflect in the empirical models the actual content of the preferential trade agreements, including the important exceptions and transition periods, rather than their stylised text-book equivalents, i.e. instantaneous free trade agreements that cover all sectors.

Given the large number of regional trade agreements, it is important that the global or multi-regional models being used incorporate at least the largest PTAs so as to capture their interactions. As the empirical literature review has shown, some modellers have gone to the trouble of adjusting the applied database to reflect other agreements, while others have not. It is also important that the trade-related policy regimes of the most important countries and regions are taken into account. Part of a potential welfare loss due to a regional trade agreement may be explained by the existence of substantial trade distortions elsewhere. Gehlhar (1998), for example, finds that the US will benefit more from its participation in APEC if the EU enlargement is accompanied by CAP reform. It would be useful also to analyse what reform of the US Farm

⁶⁷ Based on time-series evidence for all the countries in the Penn World Table dataset with data available for the period 1950-1992, Vamvakidis (1998) find economies grew faster after broad liberalisation, both in the short and long run, than if they participated in a PTA. There were 18 PTAs covering 109 member countries considered. Trade openness has a robust positive impact on growth both directly and indirectly through higher investment. Moreover, the results of Vamvakidis (1998) show that regional trade agreements have a negative impact (although not always statistically significant) on both growth and investment. The author concludes that the policy implication is that broad based trade liberalisation is to be preferred compared to regionalism. He calls for more empirical research to explain the determinants of trade policy: why do countries protect in the first place and why do they resist liberalisation even if the growth benefits are so well documented. Political economy arguments may be only part of the story.

Bill would imply for various PTAs – both those involving the US itself, but also for other PTAs.

Other interactions among PTA members are also potentially important. According to Truett and Truett (1993, 1997), for example, it is sometimes argued that the US should restrict GSP participation of the more advanced developing countries so as to redirect benefits to the least developed countries. Other argue that graduation of the more advanced developing countries from the GSP scheme would probably do very little to assist the least developed countries due to lacking productive capacity to take advantage of the preferences provided to them.⁶⁸ It would be useful to investigate the impact (if any) of the graduation of the East Asian newly industrialised countries and other more advanced developing countries from the GSP schemes on the least developed countries to assess whether or not there have been trade diversion effects.

Furthermore, in spite of the dramatic increase in the number of regional trade agreements, only few studies explicitly attempt to evaluate the effect of such arrangements on the world trading system as a whole. Indications of the impact of this regionalism trend could be obtained by examining the developments in intra- and extra-regional trade shares (see e.g. Harmsen and Leidy 1995). Such measures would provide an indication as to whether this trend is associated with greater regional concentration in trade flows, but cannot, of course, provide clear-cut conclusions about the desirability of PTAs per se because such trade flows develop in response to many other factors, e.g. changes in comparative advantage, improvements in technology, price changes, multilateral trade liberalisation, etc. that may or may not be related to the PTA. As this survey has shown, taking account of these other effects is a serious challenge facing both ex post and ex ante empirical methodologies.

⁶⁸ Moore (1992) estimates a switching regression model with unknown sample-selection based on GNP per capita to determine empirically at what level of income countries should graduate from the US GSP scheme in order for the preference scheme to have the greatest impact. His outset is that trade preferences are a scarce resource and that the US wants to use this resource so as to maximise its impact on world development. The motivation of estimating such a level of income would be to direct GSP benefits to countries that are at a stage of development (measured by their income level) at which they will experience the most growth from export expansion. His results find that the level of graduation should be less than half the US GSP graduation level being used in 1984.

6. Conclusions and recommendations

This final section concludes the literature review by briefly summarising the main findings and by providing recommendations in defining the scope for future work in this area by the OECD Secretariat.

The dramatic increase in the number of regional trade agreements over the past 10-15 years has generated an extensive body of theoretical and empirical literature that tries to assess the impact of such agreements on the global economy. Traditional trade theory is inconclusive about the expected impact of such preferential trade agreements on participating and non-participating countries, and the focus is entirely on trade creation, trade diversion, and terms-of-trade effects. Mirroring the development of recent deeper forms of integration, newer trade theory is trying to explain other aspects of regionalism. In particular, there are strands of work exploring the potential linkages between trade and productivity, trade and foreign direct investment, and between trade and domestic policy reform. Given their novelty, these new trade theory contributions are still rather eclectic, as may be expected by any new theoretical field.

Considering the current status of the new trade theory contributions and the existing methodological tools and databases, it is safe to say there is still a lot of empirical work to be done using traditional trade theory and empirical methods, and this is indeed what is reflected in the existing stock of empirical analyses. This literature review has covered more than 40 empirical studies ranging from simple analyses of trade concentration indices, gravity models and other more ad hoc econometric estimations to simple partial equilibrium analyses and more extensive global computable general equilibrium analyses. In defining the boundaries of this review, it was decided to focus on selected agreements between the OECD and developing countries.

The empirical studies reviewed in this paper seem to suggest that the quantitative assessments of PTAs are almost as disparate in their conclusions as the theories underlying them. The results are highly dependent on the underlying theoretical model structure, the specific scenarios being analysed, and particularly the underlying data. Nevertheless, theoretically well-founded and carefully constructed empirical analyses can be extremely helpful in focusing the debate about politically sensitive issues such as preferential trade agreements that by definition discriminate against non-members. In particular, such model analyses can help keep the focus on the main economic mechanisms at play, the results can serve as an input to the decision making process of policy makers, and they can highlight the economic consequences of PTAs for af-

affected parties in the participating countries, e.g. specific groups of farmers and industrialists.

Moreover, a few careful conclusions (and policy implications) can in fact be drawn from this large body of empirical literature. First of all, the value of these agreements to participating countries is generally non-negligible and positive, although relatively small. Furthermore, the benefits are clearly limited by the extent to which agriculture and sensitive products are included in the particular agreement, and by the extent to which beneficiaries already enjoy preferential access through other agreements. Another conclusion from these studies is that trade diversion may be an issue to be concerned about for particular sectors and countries. A strong multilateral trade liberalisation process can help minimise the adverse trade diversion effects of PTAs and so care must be taken to ensure that negotiation and implementation of PTAs does not divert resources away from the multilateral process. Furthermore, strengthened WTO rules could avoid the current practise of excluding and providing long transition periods for sensitive products.

Another important conclusion is that complex rules of origin mean that developing countries often do not make full use of the preferences they have been granted. To the extent that they do benefit from this preferential treatment, developing countries are concerned about the erosion of these preferences in two situations: (1) multilateral liberalisation, and (2) national/regional agricultural policy reform. An important political question is then whether bilateral and multilateral donors would find it suitable to compensate countries that are harmed by such reforms. Furthermore, in the case of reciprocal agreements, developing countries will probably need assistance in deriving alternative sources of public finance as their tariff revenues decline. This is an important issue to be kept in mind as several non-reciprocal PTAs are moving in the direction of reciprocity. Another very important role for donors is to assist in improving the domestic conditions necessary for developing countries to benefit fully from PTAs. At the most simple level, they need to understand the rules of the game, including the many technical requirements related to these agreements. More difficult, however, will be to help these countries remove the many structural and policy-related causes of their limited domestic and export supply capacities.

Based on the present review and evaluation of existing empirical studies of preferential trade agreements, it is clear that such agreements have economy-wide implications in that they generally have a broad sectoral coverage (albeit with important exceptions) and the functioning of factor markets seems to be an important determinant

of the impact of such agreements. In order to capture these important inter-sectoral linkages – both through intermediate input demands and competing demands for factors of production – the first recommendation in defining the scope for future research by the OECD Secretariat is to use a general equilibrium approach. Furthermore, given the important relations between regional and multilateral trade liberalisation initiatives, in most cases it would be appropriate to use a global CGE model. In this way, the impact of a specific PTA can be analysed not only in its own right, but also in relation to countries that are not members of the specific PTA, in relation to other PTAs, and in relation to multilateral trade negotiations under the auspices of the WTO.

This overall recommendation concerning the choice of methodology notwithstanding, it is important to recognise that different modelling approaches should be seen as complements rather than substitutes. Different models are constructed to address different questions. Comparing the PE and CGE analyses covered by this survey, for example, has clearly shown that modellers in both camps can gain useful insights from one another. Ultimately, the goal of good economic modelling is to obtain credible results – qualitatively and quantitatively. At the same time, models need to remain manageable. The main advantages of a global CGE approach are of course the solid micro-theoretical underpinning, the economy-wide scope, as well as the complete and consistent coverage of all bilateral trade flows. In practise, the main advantage of a PE approach is that the limited scope allows for greater commodity detail. Hence it is possible that a joint PE-CGE modelling approach – linking e.g. the OECD AGLINK model and a specifically tailored global CGE model – could provide for a rich analysis that encompasses both the important economy-wide considerations and provides interesting commodity-level details. In practise, simulation results using a global CGE model could be used as inputs for variables that are typically assumed exogenous in a PE model.

A word of caution at this point is warranted. To be truly useful in generating reliable results (and thereby in guiding policy makers), both CGE and PE models and their underlying databases should be carefully scrutinised and adjusted so as to adequately represent the initial, second-best nature of the global economy. As the literature review has shown, not all CGE and PE models devote enough attention to this task. This does not mean that new models must be developed for each analysis being undertaken. There is a lot to be said for taking well-designed ‘standard’ models as the starting point, but these models then need to be tailored to the specific task at hand by adjusting the underlying theory, as well as the policy and institutional representations

as appropriate. If linking CGE and PE models, it is clear that consistency must be achieved across both models in terms of assumptions made about e.g. small vs. large countries, homogenous vs. heterogeneous products, the assumed mechanism underlying a given policy instrument, the functioning of factor markets if they are included in the PE model, etc.

The review has also shown that the existing studies do not go into enough detail with the provisions of the PTAs themselves. Hence, a second recommendation is for the OECD Secretariat to extend its analytical work on agricultural policies of the OECD member states with studies that describe and analyse the preferential trade agreements in which they participate. There is a need for both qualitative and quantitative descriptions of the individual preferential trade agreements, i.e. applied tariffs, non-tariff barriers, excluded sectors, transition periods, rules of origin and other regulations, etc. Just like the agricultural policy instruments are quantified by estimating Producer Support Estimates (PSE), for example, the relevant aspects of PTAs could also be quantified where possible with the intention of comparing the economic impacts of such agreements and using such estimates in empirical model analyses. A recent study by Gallezot (2003) provides an example of how complex the analysis of customs duties under various preferential trading arrangements is in reality.

The underlying data work required for a good global CGE (and PE) analysis is a formidable task, however, and would benefit from increased collaboration among the relevant international organisations (e.g. the EU Commission, the USDA, the World Bank, the WTO, UNCTAD, the OECD). There is a need to improve the databases that underpin these empirical models, i.e. databases that describe the current global production, trade, and protection structures. An extension of the ongoing work on the Agricultural Market Access Database (AMAD), for example, to include information on preferential and regional trade agreements would be useful in this respect. For other existing databases, such as the PSE database, improved links between them and ongoing modelling efforts would also be useful. Furthermore, given the rather extensive use of the GTAP database in empirical work, it could be beneficial to extend the collaboration with the GTAP Consortium so that integration of the OECD's data into the GTAP framework may be further improved. As this literature review has also shown, there is a need to improve the econometric foundation of these types of models. Econometric work that aims for a systematic estimation of key parameters and behavioural relations, and the testing of new trade theory hypotheses that may then be incorporated into CGE and PE models, is therefore important. Such efforts would contribute to enhancing the credibility of these types of analysis. Moreover, the

OECD Secretariat could continue to play a central role in designing scenarios to be assessed using such models in collaboration with member country representatives and researchers to ensure that policy-relevant analyses are generated. Finally, there is a job to be done in terms of communicating the results of such analyses to policy makers.

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Appendix A: Notifications to the GATT/WTO by OECD and non-OECD countries

**Table A.1. OECD Regional Trade Agreements notified to the GATT/WTO and in force
By type of agreement and as of May 5, 2003**

		GATT/WTO notification				Examination process	
Agreement	Date of entry into force	Date	Related provisions	Type of agreement	Document series	Status	Ref.
EC accession of Austria, Finland and Sweden	1-jan-95	20-jan-95	GATT Art. XXIV	Accession to customs union	WT/REG3 L/7614/Add.1	Consultations on draft report	...
EC accession of Portugal and Spain	1-jan-86	11-dec-85	GATT Art. XXIV	Accession to customs union	L/5936	Report adopted	35S/293 19.10.88
EC accession of Greece	1-jan-81	24-okt-79	GATT Art. XXIV	Accession to customs union	L4845	Report adopted	30S/168 09.03.83
EC accession of Denmark, Ireland and United Kingdom	1-jan-73	7-mar-72	GATT Art. XXIV	Accession to customs union	L/3677	Report adopted	C/M/107 11.07.75
EFTA accession of Iceland	1-mar-70	30-jan-70	GATT Art. XXIV	Accession to free trade agreement	L/3328 L/3328/Add.1	Report adopted	18S/174 29.09.70
CEFTA accession of Bulgaria	1-jan-99	24-mar-99	GATT Art. XXIV	Accession to free trade agreement	WT/REG11	Consultations on draft report	...
CEFTA accession of Romania	1-jul-97	8-jan-98	GATT Art. XXIV	Accession to free trade agreement	WT/REG11	Consultations on draft report	...

CEFTA accession of Slovenia	1-jan-96	8-jan-98	GATT Art. XXIV	Accession to free trade agreement	WT/REG11	Consultations on draft report	...
EC accession of Austria, Finland and Sweden	1-jan-95	20-jan-95	GATS Art. V	Accession to services agreement	WT/REG3 S/C/N/6	Consultations on draft report	...
EC — Andorra	1-jul-91	25-feb-98	GATT Art. XXIV	Customs union	WT/REG53	Factual examination concluded	...
EC — Turkey	1-jan-96	22-dec-95	GATT Art. XXIV	Customs union	WT/REG22	Under factual examination	...
Czech Republic — Slovak Republic	1-jan-93	30-apr-93	GATT Art. XXIV	Customs union	WT/REG89	Report adopted	41S/112 04.10.94
EC — Cyprus	1-jun-73	13-jun-73	GATT Art. XXIV	Customs union	WT/REG97	Report adopted	21S/94 21.06.74
EC — Malta	1-apr-71	24-mar-71	GATT Art. XXIV	Customs union	WT/REG102	Report adopted	19S/90 29.05.72
EC (Treaty of Rome)	1-jan-58	24-apr-57	GATT Art. XXIV	Customs union	L/626	Report adopted	6S/70 & 109 29.11.57
Canada — Costa Rica	1-nov-02	17-jan-03	GATT Art. XXIV	Free trade agreement	WT/REG147	Factual examination not started	...
EC — Croatia	1-mar-02	20-dec-02	GATT Art. XXIV	Free trade agreement	WT/REG142	Factual examination not started	...
EC — Jordan	1-maj-02	20-dec-02	GATT Art. XXIV	Free trade agreement	WT/REG141	Factual examination not started	...
Japan - Singapore	30-nov-02	14-nov-02	GATT Art. XXIV	Free trade agreement	WT/REG140	Factual examination not started	...
Turkey — Slovenia	1-jun-00	6-mar-02	GATT Art. XXIV	Free trade agreement	WT/REG135	Under factual examination	...
United States — Jordan	17-dec-01	5-mar-02	GATT Art. XXIV	Free trade agreement	WT/REG134	Factual examination not started	...

EFTA — Jordan	1-jan-02	22-jan-02	GATT Art. XXIV	Free trade agreement	WT/REG133	Factual examination not started	...
EFTA — Croatia	1-jan-02	22-jan-02	GATT Art. XXIV	Free trade agreement	WT/REG132	Factual examination not started	...
EC — FYROM	1-jun-01	21-nov-01	GATT Art. XXIV	Free trade agreement	WT/REG129	Under factual examination	...
Hungary — Estonia	1-mar-01	4-okt-01	GATT Art. XXIV	Free trade agreement	WT/REG128	Under factual examination	...
New Zealand - Singapore	1-jan-01	4-sep-01	GATT Art. XXIV	Free trade agreement	WT/REG127	Under factual examination	...
EFTA - Mexico	1-jul-01	25-jul-01	GATT Art. XXIV	Free trade agreement	WT/REG126	Under factual examination	...
Mexico — Israel	1-jul-00	27-feb-01	GATT Art. XXIV	Free trade agreement	WT/REG124	Under factual examination	...
EFTA — Former Yugoslav Republic of Macedonia	1-jan-01	31-jan-01	GATT Art. XXIV	Free trade agreement	WT/REG117	Factual examination concluded	...
Turkey — Former Yugoslav Republic of Macedonia	1-sep-00	22-jan-01	GATT Art. XXIV	Free trade agreement	WT/REG115	Factual examination concluded	...
EC — South Africa	1-jan-00	14-nov-00	GATT Art. XXIV	Free trade agreement	WT/REG113	Factual examination not started	...
EC — Morocco	1-mar-00	8-nov-00	GATT Art. XXIV	Free trade agreement	WT/REG112	Under factual examination	...
EC — Israel	1-jun-00	7-nov-00	GATT Art. XXIV	Free trade agreement	WT/REG110	Factual examination concluded	...
EC — Mexico	1-jul-00	1-aug-00	GATT Art. XXIV	Free trade agreement	WT/REG109	Under factual examination	...
Poland — Turkey	1-maj-00	14-maj-00	GATT Art. XXIV	Free trade agreement	WT/REG107	Factual examination concluded	...

EFTA — Morocco	1-dec-99	20-feb-00	GATT Art. XXIV	Free trade agreement	WT/REG91	Factual examination concluded	...
Hungary — Latvia	1-jan-00	20-dec-99	GATT Art. XXIV	Free trade agreement	WT/REG84	Factual examination concluded	...
Hungary — Lithuania	1-mar-00	20-dec-99	GATT Art. XXIV	Free trade agreement	WT/REG83	Factual examination concluded	...
Poland — Latvia	1-jun-99	29-sep-99	GATT Art. XXIV	Free trade agreement	WT/REG80	Factual examination concluded	...
EFTA — Palestinian Authority	1-jul-99	21-sep-99	GATT Art. XXIV	Free trade agreement	WT/REG79	Factual examination not started	...
Poland — Faroe Islands	1-jun-99	18-aug-99	GATT Art. XXIV	Free trade agreement	WT/REG78	Factual examination concluded	...
Czech Republic — Turkey	1-sep-98	24-apr-99	GATT Art. XXIV	Free trade agreement	WT/REG67	Factual examination concluded	...
Slovak Republic — Turkey	1-sep-98	24-mar-99	GATT Art. XXIV	Free trade agreement	WT/REG68	Factual examination concluded	...
EC — Tunisia	1-mar-98	23-mar-99	GATT Art. XXIV	Free trade agreement	WT/REG69	Factual examination concluded	...
Poland — Israel	1-mar-98	25-feb-99	GATT Art. XXIV	Free trade agreement	WT/REG65	Factual examination concluded	...
Czech Republic — Estonia	12-feb-98	3-aug-98	GATT Art. XXIV	Free trade agreement	WT/REG62	Factual examination concluded	...
Slovak Republic — Estonia	12-feb-98	3-aug-98	GATT Art. XXIV	Free trade agreement	WT/REG63	Factual examination concluded	...
Hungary — Turkey	1-apr-98	12-maj-98	GATT Art. XXIV	Free trade agreement	WT/REG58	Factual examination concluded	...

Czech Republic — Israel	1-dec-97	30-mar-98	GATT Art. XXIV	Free trade agreement	WT/REG56	Factual examination concluded	...
Slovak Republic — Israel	1-jan-97	30-mar-98	GATT Art. XXIV	Free trade agreement	WT/REG57	Factual examination concluded	...
Hungary — Israel	1-feb-98	24-mar-98	GATT Art. XXIV	Free trade agreement	WT/REG54	Factual examination concluded	...
Poland — Lithuania	1-jan-97	30-dec-97	GATT Art. XXIV	Free trade agreement	WT/REG49	Factual examination concluded	...
Slovak Republic — Latvia	1-jul-97	14-nov-97	GATT Art. XXIV	Free trade agreement	WT/REG47	Factual examination concluded	...
Slovak Republic — Lithuania	1-jul-97	14-nov-97	GATT Art. XXIV	Free trade agreement	WT/REG48	Factual examination concluded	...
Czech Republic — Latvia	1-jul-97	13-nov-97	GATT Art. XXIV	Free trade agreement	WT/REG45	Factual examination concluded	...
Czech Republic — Lithuania	1-sep-97	13-nov-97	GATT Art. XXIV	Free trade agreement	WT/REG46	Factual examination concluded	...
Canada — Chile	5-jul-97	26-aug-97	GATT Art. XXIV	Free trade agreement	WT/REG38	Factual examination concluded	...
EC — Palestinian Authority	1-jul-97	30-jun-97	GATT Art. XXIV	Free trade agreement	WT/REG43	Factual examination not started	...
EC — Faroe Islands	1-jan-97	19-feb-97	GATT Art. XXIV	Free trade agreement	WT/REG21	Under factual examination	...
Canada — Israel	1-jan-97	23-jan-97	GATT Art. XXIV	Free trade agreement	WT/REG31	Factual examination concluded	...
EC — Slovenia	1-jan-97	11-nov-96	GATT Art. XXIV	Free trade agreement	WT/REG32	Factual examination concluded	...

EFTA — Estonia	1-jun-96	25-jul-96	GATT Art. XXIV	Free trade agreement	WT/REG28	Factual examination concluded	...
EFTA — Latvia	1-jun-96	25-jul-96	GATT Art. XXIV	Free trade agreement	WT/REG29	Factual examination concluded	...
EFTA — Lithuania	1-aug-96	25-jul-96	GATT Art. XXIV	Free trade agreement	WT/REG30	Factual examination concluded	...
EC — Czech Republic	1-mar-92	13-maj-96	GATT Art. XXIV	Free trade agreement	WT/REG18	Factual examination concluded	...
EC — Slovak Republic	1-mar-92	13-maj-96	GATT Art. XXIV	Free trade agreement	WT/REG18	Factual examination concluded	...
EFTA — Slovenia	1-jul-95	18-okt-95	GATT Art. XXIV	Free trade agreement	WT/REG20	Factual examination concluded	...
EC — Lithuania	1-jan-95	26-sep-95	GATT Art. XXIV	Free trade agreement	WT/REG9	Factual examination concluded	...
EC — Estonia	1-jan-95	30-jun-95	GATT Art. XXIV	Free trade agreement	WT/REG8	Factual examination concluded	...
EC — Latvia	1-jan-95	30-jun-95	GATT Art. XXIV	Free trade agreement	WT/REG7	Factual examination concluded	...
EC — Bulgaria	31-dec-93	23-dec-94	GATT Art. XXIV	Free trade agreement	WT/REG1	Factual examination concluded	...
EC — Romania	1-maj-93	23-dec-94	GATT Art. XXIV	Free trade agreement	WT/REG2	Factual examination concluded	...
EFTA — Hungary	1-okt-93	23-dec-93	GATT Art. XXIV	Free trade agreement	WT/REG13	Consultations on draft report	...
EFTA — Poland	15-nov-93	20-okt-93	GATT Art. XXIV	Free trade agreement	WT/REG15	Factual examination concluded	...

EFTA — Bulgaria	1-jul-93	30-jun-93	GATT Art. XXIV	Free trade agreement	WT/REG12	Factual examination concluded	...
EFTA — Romania	1-maj-93	24-maj-93	GATT Art. XXIV	Free trade agreement	WT/REG16	Factual examination concluded	...
EFTA — Israel	1-jan-93	1-dec-92	GATT Art. XXIV	Free trade agreement	WT/REG14	Factual examination concluded	...
EFTA — Czech Republic	1-jul-92	3-jul-92	GATT Art. XXIV	Free trade agreement	WT/REG87	Report adopted	41S/116 08.12.94
EFTA — Slovak Republic	1-jul-92	3-jul-92	GATT Art. XXIV	Free trade agreement	WT/REG88	Report adopted	41S/116 08.12.94
EC — Hungary	1-mar-92	3-apr-92	GATT Art. XXIV	Free trade agreement	WT/REG18	Consultations on draft report	...
EC — Poland	1-mar-92	3-apr-92	GATT Art. XXIV	Free trade agreement	WT/REG18	Factual examination concluded	...
EFTA — Turkey	1-apr-92	6-mar-92	GATT Art. XXIV	Free trade agreement	WT/REG86	Report adopted	40S/48 17.12.93
United States — Israel	19-aug-85	13-sep-85	GATT Art. XXIV	Free trade agreement	L/5862 L/5862/Add.1	Report adopted	34S/58 14.05.87
EC — Egypt	1-jul-77	15-jul-77	GATT Art. XXIV	Free trade agreement	WT/REG98	Report adopted	25S/114 17.05.78
EC — Lebanon	1-jul-77	15-jul-77	GATT Art. XXIV	Free trade agreement	WT/REG101	Report adopted	25S/142 17.05.78
EC — Syria	1-jul-77	15-jul-77	GATT Art. XXIV	Free trade agreement	WT/REG104	Report adopted	25S/123 17.05.78
EC — Algeria	1-jul-76	28-jul-76	GATT Art. XXIV	Free trade agreement	WT/REG105	Report adopted	24S/80 11.11.77
EC — Norway	1-jul-73	13-jul-73	GATT Art. XXIV	Free trade agreement	WT/REG137	Report adopted	21S/83 28.03.74
EC — Iceland	1-apr-73	24-nov-72	GATT Art. XXIV	Free trade agreement	WT/REG95	Report adopted	20S/158 19.10.73
EC — Switzerland and Liechtenstein	1-jan-73	27-okt-72	GATT Art. XXIV	Free trade agreement	WT/REG94	Report adopted	20S/196 19.10.73

EC — OCTs	1-jan-71	14-dec-70	GATT Art. XXIV	Free trade agreement	WT/REG106	Report adopted	18S/143 09.11.71
EFTA (Stockholm Convention)	3-maj-60	14-nov-59	GATT Art. XXIV	Free trade agreement	WT/REG85	Report adopted	9S/70 04.06.60
EFTA - Singapore	1-jan-03	24-jan-03	GATT Art. XXIV	Free trade agreement	WT/REG148	Factual examination not started	...
Chile — Mexico	1-aug-99	27-feb-01	GATT Art. XXIV	Free trade agreement	WT/REG125	Under factual examination	...
Latvia — Turkey	1-jul-00	22-jan-01	GATT Art. XXIV	Free trade agreement	WT/REG116	Factual examination concluded	...
Bulgaria — Turkey	1-jan-99	4-maj-99	GATT Art. XXIV	Free trade agreement	WT/REG72	Factual examination concluded	...
Estonia — Turkey	1-jun-98	23-mar-99	GATT Art. XXIV	Free trade agreement	WT/REG70	Factual examination concluded	...
Lithuania — Turkey	1-mar-98	8-jun-98	GATT Art. XXIV	Free trade agreement	WT/REG61	Factual examination concluded	...
Israel — Turkey	1-maj-97	18-maj-98	GATT Art. XXIV	Free trade agreement	WT/REG60	Factual examination concluded	...
Romania — Turkey	1-feb-98	18-maj-98	GATT Art. XXIV	Free trade agreement	WT/REG59	Factual examination concluded	...
Faroe Islands — Norway	1-jul-93	13-mar-96	GATT Art. XXIV	Free trade agreement	WT/REG25	Factual examination concluded	...
Faroe Islands — Switzerland	1-mar-95	8-mar-96	GATT Art. XXIV	Free trade agreement	WT/REG24	Factual examination concluded	...
Faroe Islands — Iceland	1-jul-93	23-jan-96	GATT Art. XXIV	Free trade agreement	WT/REG23	Factual examination concluded	...
CEFTA	1-mar-93	30-jun-94	GATT Art. XXIV	Free trade agreement	WT/REG11	Consultations on draft report	...

NAFTA	1-jan-94	1-feb-93	GATT Art. XXIV	Free trade agreement	WT/REG4	Consultations on draft report	...
CER	1-jan-83	14-apr-83	GATT Art. XXIV	Free trade agreement	WT/REG111	Report adopted	31S/170 02.10.84
EFTA - Singapore	1-jan-03	24-jan-03	GATS Art. V	Services agreement	WT/REG148 S/C/N/226	Factual examination not started	...
EFTA	1-jun-02	3-dec-02	GATS Art. V	Services agreement	S/C/N/207	Factual examination not started	...
Japan - Singapore	30-nov-02	14-nov-02	GATS Art. V	Services agreement	WT/REG140 S/C/N/206	Factual examination not started	...
United States — Jordan	17-dec-01	18-okt-02	GATS Art. V	Services agreement	WT/REG134 S/C/N/193	Factual examination not started	...
EC — Mexico	1-mar-01	21-jun-02	GATS Art. V	Services agreement	WT/REG109 S/C/N/192	Under factual examination	...
EC — Slovenia	1-feb-99	11-feb-02	GATS Art. V	Services agreement	WT/REG146 S/C/N/190	Under factual examination	...
EC — Lithuania	1-feb-98	11-feb-02	GATS Art. V	Services agreement	WT/REG145 S/C/N/189	Under factual examination	...
EC — Estonia	1-feb-98	11-feb-02	GATS Art. V	Services agreement	WT/REG144 S/C/N/188	Under factual examination	...
EC — Latvia	1-feb-99	11-feb-02	GATS Art. V	Services agreement	WT/REG143 S/C/N/187	Under factual examination	...
New Zealand - Singapore	1-jan-01	4-sep-01	GATS Art. V	Services agreement	WT/REG127 S/C/N/169	Under factual examination	...
EFTA - Mexico	1-jul-01	25-jul-01	GATS Art. V	Services agreement	WT/REG126 S/C/N/166	Under factual examination	...
Canada — Chile	5-jul-97	13-nov-97	GATS Art. V	Services agreement	WT/REG38 S/C/N/65	Under factual examination	...
EC — Bulgaria	1-feb-95	25-apr-97	GATS Art. V	Services agreement	WT/REG1 S/C/N/55	Under factual examination	...
EC — Czech Republic	1-feb-95	9-okt-96	GATS Art. V	Services agreement	WT/REG139 S/C/N/26	Under factual examination	...
EC — Romania	1-feb-95	9-okt-96	GATS Art. V	Services agreement	WT/REG2 S/C/N/27	Under factual examination	...
EC — Hungary	1-feb-94	27-aug-96	GATS Art. V	Services agreement	WT/REG50 S/C/N/24	Consultations on draft report	...

EC — Poland	1-feb-94	27-aug-96	GATS Art. V	Services agreement	WT/REG51 S/C/N/25	Factual examination concluded	...
EC — Slovak Republic	1-feb-95	27-aug-96	GATS Art. V	Services agreement	WT/REG52 S/C/N/23	Factual examination concluded	...
EC (Treaty of Rome)	1-jan-58	10-nov-95	GATS Art. V	Services agreement	WT/REG39 S/C/N/6	Under factual examination	...
Chile — Mexico	1-aug-99	14-mar-01	GATS Art. V	Services agreement	WT/REG125 S/C/N/142	Under factual examination	...
EEA	1-jan-94	10-okt-96	GATS Art. V	Services agreement	WT/REG138 S/C/N/28	Under factual examination	...
CER	1-jan-89	22-nov-95	GATS Art. V	Services agreement	WT/REG40 S/C/N/7	Consultations on draft report	...
NAFTA	1-apr-94	1-mar-95	GATS Art. V	Services agreement	WT/REG4 S/C/N/4	Consultations on draft report	...
ECO	not available	22-jul-92	Enabling Clause	Other	L/7047	Examination not requested	...
LAIA	18-mar-81	1-jul-82	Enabling Clause	Other	L/5342	Examination not requested	...

**Table A.2. Non-OECD Regional Trade Agreements notified to the GATT/WTO and in Force
By type of agreement and as of May 5, 2003**

		GATT/WTO notification				Examination process	
Agreement	Date of entry into force	Date	Related provisions	Type of agreement	Document series	Status	Ref.
EAEC	8-okt-97	6-apr-99	GATT Art. XXIV	Customs union	WT/REG71	Under factual examination	...
MERCOSUR	29-nov-91	5-mar-92	Enabling Clause	Customs union	WT/COMTD/1	Under factual examination	...
CARICOM	1-aug-73	14-okt-74	GATT Art. XXIV	Customs union	WT/REG92	Report adopted	24S/68 02.03.77
CACM	12-okt-61	24-feb-61	GATT Art. XXIV	Customs union	WT/REG93	Report adopted	10S/98 23.11.61
Bulgaria - Lithuania	1-mar-02	30-apr-03	GATT Art. XXIV	Free trade agreement	WT/REG152	Examination not requested	...
Bulgaria - Israel	1-jan-02	14-apr-03	GATT Art. XXIV	Free trade agreement	WT/REG150	Examination not requested	...
Bulgaria - Latvia	1-apr-03	8-apr-03	GATT Art. XXIV	Free trade agreement	WT/REG151	Examination not requested	...
Bulgaria - Estonia	1-jan-02	25-mar-03	GATT Art. XXIV	Free trade agreement	WT/REG149	Examination not requested	...
India — Sri Lanka	15-dec-01	26-jun-02	Enabling Clause	Free trade agreement	WT/COMTD/N/16	Examination not requested	...
Chile — Costa Rica	15-feb-02	14-maj-02	GATT Art. XXIV	Free trade agreement	WT/REG136	Factual examination not started	...
Slovenia — Bosnia and Herzegovina	1-jan-02	21-jan-02	GATT Art. XXIV	Free trade agreement	WT/REG131	Factual examination not started	...
Georgia — Armenia	11-nov-98	21-feb-01	GATT Art. XXIV	Free trade agreement	WT/REG119	Under factual examination	...
Georgia — Azerbaijan	10-jul-96	21-feb-01	GATT Art. XXIV	Free trade agreement	WT/REG120	Under factual examination	...
Georgia — Kazakhstan	16-jul-99	21-feb-01	GATT Art. XXIV	Free trade agreement	WT/REG123	Under factual examination	...

Georgia — Russian Federation	10-maj-94	21-feb-01	GATT Art. XXIV	Free trade agreement	WT/REG118	Under factual examination	...
Georgia — Turkmenistan	1-jan-00	21-feb-01	GATT Art. XXIV	Free trade agreement	WT/REG122	Under factual examination	...
Georgia — Ukraine	4-jun-96	21-feb-01	GATT Art. XXIV	Free trade agreement	WT/REG121	Under factual examination	...
Kyrgyz Republic — Armenia	27-okt-95	4-jan-01	GATT Art. XXIV	Free trade agreement	WT/REG114	Under factual examination	...
Estonia — Ukraine	14-mar-96	25-jul-00	GATT Art. XXIV	Free trade agreement	WT/REG108	Factual examination concluded	...
Bulgaria — Former Yugoslav Republic of Macedonia	1-jan-00	21-jan-00	GATT Art. XXIV	Free trade agreement	WT/REG90	Factual examination concluded	...
CIS	30-dec-94	1-okt-99	GATT Art. XXIV	Free trade agreement	WT/REG82	Under factual examination	...
Kyrgyz Republic — Kazakhstan	11-nov-95	29-sep-99	GATT Art. XXIV	Free trade agreement	WT/REG81	Under factual examination	...
BAFTA	1-apr-94	15-jun-99	GATT Art. XXIV	Free trade agreement	WT/REG77	Factual examination concluded	...
Kyrgyz Republic — Moldova	21-nov-96	15-jun-99	GATT Art. XXIV	Free trade agreement	WT/REG76	Factual examination concluded	...
Kyrgyz Republic — Russian Federation	24-apr-93	15-jun-99	GATT Art. XXIV	Free trade agreement	WT/REG73	Under factual examination	...
Kyrgyz Republic — Ukraine	19-jan-98	15-jun-99	GATT Art. XXIV	Free trade agreement	WT/REG74	Under factual examination	...
Kyrgyz Republic — Uzbekistan	20-mar-98	15-jun-99	GATT Art. XXIV	Free trade agreement	WT/REG75	Under factual examination	...

Slovenia — Israel	1-sep-98	8-mar-99	GATT Art. XXIV	Free trade agreement	WT/REG66	Factual examination concluded	...
Estonia — Faroe Islands	1-dec-98	26-jan-99	GATT Art. XXIV	Free trade agreement	WT/REG64	Factual examination concluded	...
Slovenia — Croatia	1-jan-98	25-mar-98	GATT Art. XXIV	Free trade agreement	WT/REG55	Factual examination concluded	...
Romania — Moldova	1-jan-95	24-sep-97	GATT Art. XXIV	Free trade agreement	WT/REG44	Factual examination concluded	...
Slovenia — Estonia	1-jan-97	20-feb-97	GATT Art. XXIV	Free trade agreement	WT/REG37	Factual examination concluded	...
Slovenia — Former Yugoslav Republic of Macedonia	1-sep-96	20-feb-97	GATT Art. XXIV	Free trade agreement	WT/REG36	Factual examination concluded	...
Slovenia — Latvia	1-aug-96	20-feb-97	GATT Art. XXIV	Free trade agreement	WT/REG34	Factual examination concluded	...
Slovenia — Lithuania	1-mar-97	20-feb-97	GATT Art. XXIV	Free trade agreement	WT/REG35	Factual examination concluded	...
PATCRA	1-feb-77	20-dec-76	GATT Art. XXIV	Free trade agreement	L/4451 L/4451/Add.1	Report adopted	24S/63 11.11.77
CARICOM	1-jul-97	19-feb-03	GATS Art. V	Services agreement	S/C/N/229	Factual examination not started	...
Chile — Costa Rica	15-feb-02	24-maj-02	GATS Art. V	Services agreement	WT/REG136 S/C/N/191	Factual examination not started	...
EAC	7-jul-00	11-okt-00	Enabling Clause	Other	WT/COMTD/N/14 WT/COMTD/25	Examination not requested	...

CEMAC	24-jun-99	28-sep-00	Enabling Clause	Other	WT/COMTD/N/13 WT/COMTD/24	Examination not requested	...
WAEMU/UEMOA	1-jan-00	3-feb-00	Enabling Clause	Other	WT/COMTD/N/11 WT/COMTD/23	Examination not requested	...
MSG	22-jul-93	7-okt-99	Enabling Clause	Other	WT/COMTD/N/9 WT/COMTD/21	Examination not requested	...
COMESA	8-dec-94	29-jun-95	Enabling Clause	Other	WT/COMTD/N/3	Examination not requested	...
SAPTA	7-dec-95	22-sep-93	Enabling Clause	Other	WT/COMTD/10	Examination not requested	...
AFTA	28-jan-92	30-okt-92	Enabling Clause	Other	L/4581	Examination not requested	...
CAN	25-maj-88	12-okt-92	Enabling Clause	Other	L/6737	Examination not requested	...
Laos — Thailand	20-jun-91	29-nov-91	Enabling Clause	Other	L/6947	Examination not requested	...
GCC	not available	11-okt-84	Enabling Clause	Other	L/5676	Examination not requested	...
SPARTECA	1-jan-81	20-feb-81	Enabling Clause	Other	L/5100	Examination not requested	...
Bangkok Agreement	17-jun-76	2-nov-76	Enabling Clause	Other	L/4418 L/4418/Corr.1	Report adopted	25S/109 14.03.78
GSTP	19-apr-89	25-sep-89	Enabling Clause	Other	L/6564/Add.1	Examination not requested	...
PTN	11-feb-73	9-nov-71	Enabling Clause	Other	L/3598 18S/11	Examination not requested	...
TRIPARTITE	1-apr-68	23-feb-68	Enabling Clause	Other	L/2980 L/2980/Add.1	Report adopted	16S/83 14.11.68

Appendix B: Summaries of the selected preferential trade agreements

PTA	The Cotonou Agreement
Date of entry into force	2000
Participants	77 African, Caribbean and Pacific (ACP) countries and the EU
Type of PTA	Currently a non-reciprocal preferential trade agreement. Will become a free trade area when negotiations concerning the trade provisions are completed and in full conformity with the provisions of the WTO.
Objectives	The ultimate objective is to eradicate poverty in the ACP countries through development aid and increased trade.
Progress to date	Negotiations concerning the trade provisions of the agreement have not yet been concluded. Regional partnership agreements (REPAs) are expected to enter into force by 2008. Until then the non-reciprocal trade regime from the Lomé IV will be maintained.
Agricultural provisions	All agricultural products falling within HS chapters 1-24 are covered. 80 % of ACP agricultural exports to the EU enter duty free, whereas agricultural products like citrus fruits, tobacco and leguminous vegetables covered by the European Common Agricultural Policy (CAP) continue to be subject to relatively high tariff rates and tariff rate quotas (TRQs). The import of bananas, sugar, and meat of bovine animals are regulated through protocols, according to which ACP countries can apply for a certain quota of exports.
Non-agricultural provisions	All processed and semi-processed industrial products falling within HS chapters 25-97 are covered by the agreement and enter the EU duty free.
General non-tariff barriers	Safeguard clauses allow the EU to suspend preferences temporarily if the imports cause serious injury to domestic producers or likely competitive products or serious disturbances in any sector of the economy or serious deterioration of a region.
Rules of origin	The key features of the EU preferential rules of origin are: (1) Product-specific requirements related to (a) maximum import content, (b) specific processing criteria, and (c) change of tariff heading requirements, (2) Cumulation within specified regions and allowances for EU content. Source: GAO (2001)
Related policy agreements	The trading regime is part of a very comprehensive agreement involving political, social and economic development.
Rules of accession	Beneficiaries must be classified as an ACP country. New members of the EU become party to the Agreement.

Sources: European Commission (2000): The Cotonou Agreement.
<http://acpsec.org/gb/cotonou/accord1.htm#PART%203:%20COOPERATION%20STRATEGIES>

PTA	The European Union Everything But Arms (EBA) initiative
Date of entry into force	2001
Participants	49 least developed countries benefit from the EBA
Type of PTA	Non-reciprocal preferential trade agreement adapted as an amendment to the European GSP scheme (see next table)
Objectives	Duty- and quota-free access to the EU for all products except arms and ammunition originating in least developed countries.
Progress to date	Agreement is being implemented – for three products implementation takes place over a period of up to 8 years.
Agricultural provisions	All agricultural products falling within HS chapters 1-24 are covered. All restrictions including tariffs and tariff rate quotas on all agricultural exports from the LDC-countries to the EU are to be removed on a non-reciprocal basis. Liberalisation of trade in three sensitive products (bananas, rice and sugar) will take place in three progressive stages, with complete liberalisation reached by 2006 for rice and by 2009 for bananas and sugar.
Non-agricultural provisions	All processed and semi-processed industrial products falling within HS chapters 25-97, excluding HS chapter 93, are covered by the scheme. All of these products enter the EU duty- and quota-free.
General non-tariff barriers	Preferences may be withdrawn temporarily if imports originating in a beneficiary country increase in relation to their usual levels of production and export capacity or if the countries do not comply with specific rules of the EBA agreement including rules on human rights and fair trade. This suspension is limited to a period of three months. There are two general safeguard clauses. The first one enables the suspension of preferences and the reintroduction of MFN rates if the imports cause serious disturbance to producers or competing products in the EU. The second enables the suspension of preferences if imports of sensitive products causes serious disturbance to the EU markets or their regulation mechanism.
Rules of origin	See table describing the Cotonou Agreement.
Related policy agreements	None
Rules of accession	Beneficiaries must be classified as a least developed country. Beneficiaries can be excluded from the system according to a country graduation mechanism, where preferences can be withdrawn for a country as a whole or for individual sectors in a country if they reach a certain level of development or competitiveness. The graduation mechanism is based on a combination of three criteria: a development index, a certain level of imports from the country, and a sector specialisation index. If a country meets all of the criteria and is classified as a high-income country by the World Bank for three consecutive years, the preferences will be suspended completely.

Sources: European Community (2001): Council regulation (EC) No. 416/2001 of 28. February. Official Journal of the European Communities. European Community (2001): Council regulation (EC) No. 2501/2001 of 10. December. Official Journal of the European Communities.

PTA	The European Generalised System of Preferences (GSP)
Date of entry into force	1971
Participants	146 independent developing countries and 25 dependent or administered territories benefit from the European GSP Scheme
Type of PTA	Non-reciprocal preferential trade agreement
Objectives	To improve market access for developing countries by offering reduced tariff rates.
Progress to date	The EU GSP Scheme follows a cycle of 10 years. Regulations of the scheme are valid for a period of 3-4 years. A new regulation entered into force in January 2002 and will expire in 2004, where it is subject to re-authorization.
Agricultural provisions	A large number of agricultural products falling within HS chapters 1-24 are covered. Preferences follow a tariff modulation system, where all products are classified as either non-sensitive or sensitive. In the case of agriculture, the majority of products covered by the CAP are classified as sensitive products. Duty free access applies to products classified as non-sensitive. For sensitive products a flat rate reduction of 3.5 percentage points of the MFN duty applies in the case of <i>ad valorem</i> duties. A 30% reduction of the MFN duty applies in the case of specific duties. A 20% reduction applies for textiles and clothing. Additional margins of preferences are granted to beneficiary countries that comply with certain requirements related to labour and environmental standards and for certain countries undertaking effective programmes to combat drug trafficking.
Non-agricultural provisions	Almost all processed and semi-processed industrial products falling within HS chapters 25-97, excluding chapter 93 (arms and ammunition), are covered by the scheme. The same system of tariff modulation as described above applies.
General non-tariff barriers	A temporary withdrawal of preferences may take place if imports originating in the beneficiary countries increase in relation to their usual levels of production and export capacity or if the countries do not comply with the rules of the GSP such as the rules of origin, human rights, and fair trade. Apart from these regulations, the GSP scheme contains two general safeguard clauses. The first one enables the suspension of preferences and the reintroduction of MFN rates if imports cause serious disturbance to producers or competing products in the EU. The second safeguard clause enables suspension of preferences if imports of sensitive agricultural products covered by the CAP cause serious disturbance to the EU markets or their regulation mechanism.
Rules of origin	See table describing the Cotonou Agreement.
Related policy agreements	There are special incentive arrangements regarding protection of labour rights, the environment and anti-drug initiatives.
Rules of accession	Beneficiaries must be classified as an LDC. Same as described above for the EBA.

Sources: Handbook on the scheme of the European Community (2002). European Community (2001): Council regulation (EC) No. 2501/2001 of 10. December. Official Journal of the European Communities. <<http://www.unctad.org/Templates/Page.asp?intItemID=1418&lang=1>>.

PTA	The Generalised System of Preferences (GSP) of the United States
Date of entry into force	1976
Participants	123 independent developing countries and 25 dependent or administered territories benefit from the American GSP Scheme
Type of PTA	Non-reciprocal preferential trade agreement.
Objectives	To provide a margin of preferences for <i>some</i> products imported from <i>some</i> developing countries
Progress to date	The US GSP is reviewed annually.
Agricultural provisions	Selected agricultural, fishery and other primary products. According to GAO (2001) 38% of agricultural exports are covered by the US GSP. All products that are eligible for preferential treatment enter entirely free of duty. The LDCs enjoy a wider range of products. 82% of LDC agricultural exports enjoy preferential access through the US GSP (GAO 2001).
Non-agricultural provisions	Most manufactures and semi-manufactures are eligible for GSP treatment except for most textiles, watches, footwear, handbags, luggage, flat goods, work gloves, and other leather wearing apparel. The same system of tariff preferences applies as described for agricultural provisions.
General non-tariff barriers	Products can be denied duty-free access when they reach a certain level of competitiveness or if imports exceed a certain level, measured either as a certain dollar value or a specific import share. This latter restriction is known as the 'competitive need limit' beyond which preferential tariff treatment is lost. Graduation is decided by the President and can be for a limited period or permanently.
Rules of origin	The key features of the US preferential rules of origin are: (1) Minimum local content requirement: 35 percent of the customs value, (2) 'Substantial transformation' requirement, (3) Cumulation within specified regions and allowances for US content. Source: GAO (2001)
Related policy agreements	Beneficiary countries must adhere to certain rules such as respect for the protection of human rights, labour rights and intellectual property rights.
Rules of accession	Accession of a new country is determined by the President. A country can graduate from the programme if a beneficiary country has become a 'high income' country as defined by the World Bank.

Sources: Handbook on the scheme of the United States of America, UNCTAD, June 2002.
<http://www.unctad.org/Templates/Page.asp?intItemID=1418&lang=1>.

PTA	The Generalised System of Preferences (GSP) for Japan
Date of entry into force	1971
Participants	164 independent developing countries and dependent or administrated territories benefit from the Japanese GSP Scheme
Type of PTA	Non-reciprocal preferential trade agreement
Objectives	To contribute to the economic development of developing countries
Progress to date	Agreement implemented.
Agricultural provisions	The agreement covers selected agricultural and fishery products from HS chapters 1-24, except chapters 1, 2 and 10. Various reductions of the MFN tariff rate apply to agricultural products. LDC beneficiaries are granted duty- and quota-free access for an additional list of products. There are no import ceilings for agricultural products.
Non-agricultural provisions	Preferences are granted for all industrial and other non-agricultural products, including forestry and mining products, with the exception of selected products such as certain petroleum products, waterproof footwear, and raw silk. The scheme offers duty-free treatment for all industrial products, with the exception of 'selected products'. For the list of selected products the MFN rate is reduced by 100~20 per cent. LDC beneficiaries are granted duty- and quota-free access for an additional list of products. Some industrial products do not face import ceilings, while other preferential imports can be made only up to given ceilings. No ceilings apply to imports from LDCs.
General non-tariff barriers	The scheme contains safeguard clauses with the right to suspend preferences similar to the other GSP schemes.
Rules of origin	The rules of origin comprise the following elements: origin criteria, direct consignment conditions, and documentary evidence. Allows for bilateral and regional cumulation under certain conditions.
Related policy agreements	None
Rules of accession	Beneficiaries must have developing country status. Countries can be excluded according to a graduation mechanism if they are defined as a 'high income' country or reach a certain level of competitiveness.

Sources: Handbook on the scheme of Japan 2002/2003, UNCTAD, November, 2002.
<http://www.unctad.org/Templates/Page.asp?intItemID=1418&lang=1>.

PTA	EU – South Africa
Date of entry into force	2000
Participants	EU and South Africa
Type of PTA	Aim is a free trade area in 2011.
Objectives	To create a free trade area over an asymmetric, transitional period of 10 years for the EU and 12 years for South Africa. More generally, the aim is to promote respect for human rights and democracy, and to support sustainable development.
Progress to date	Negotiations partially complete. Ratification of the Trade, Development and Co-operation Agreement (TDCA) is ongoing.
Agricultural provisions	For agricultural products the EU is committed to a slower and a less extensive dismantling of barriers than South Africa (contrary to the industrial products). South Africa has agreed to eliminate or reduce tariffs on 81% of the EU's agricultural exports. By contrast, only 61.4 % of South Africa's agricultural exports to the EU are subject to full liberalisation, for the most part after ten-years, with the exceptions of dried beans and lentils, coconuts, coffee and tea, oil seeds, skins and furs, raw wool and cotton. These products either have zero tariffs already or will attain duty-free access to the EU market within three years. In addition, 13 % will be liberalised only partially. Tariff elimination will moreover be slower for meat, frozen, preserved or dried vegetables, animal or vegetable fats, chocolate, pasta, wine and some dairy products. Import provisions for fisheries products are still to be determined, and TRQs continue to exist for many products like yoghurt, margarine, chocolate, pasta and bread. Furthermore, some South African agricultural export commodities are not subject to liberalisation under the current Agreement, including wine, citrus fruits and apples. The excluded products are either covered by protected EU denominations (for example Ouzo and Beaujolais) or will be reviewed at a later stage.
Non-agricultural provisions	The EU is committed to a more rapid and more comprehensive dismantling of barriers against industrial products than South Africa. Tariff elimination will take place in different stages, with differentiated schedules for EU and South Africa. The EU will reduce tariffs on 95% of South Africa's industrial exports over a 10-year period. South Africa will eliminate or reduce tariffs on 86.5% of the EU's industrial exports over a period of 12 years.
General non-tariff barriers	To be negotiated. A safeguard clause can be invoked to protect infant industries in the SACU region.
Rules of origin	See the general comment on the EU's preferential rules of origin in the table describing the EU's GSP. Partial cumulation is allowed with the ACP states. The final product is considered as originating in South Africa if the value added exceeds the value of the materials used originating in an ACP state. In addition, any working or processing carried out within the SACU states is considered as carried out in South Africa when it is further worked on or processed there.
Related policy agreements	On the agenda are issues such as good governance, technical problems in agricultural trade, anti-dumping, etc. There is also a work-schedule for automobiles. Separate agreements on wine and spirits have already been signed and are also applied provisionally to provide for the reciprocal protection of wine and spirits names.
Rules of accession	New members must be accepted as members of the EU.

Sources: http://europa.eu.int/comm/trade/bilateral/southafrica/index_en.htm
<http://www.eusa.org.za/>

PTA	The Euro - Mediterranean Partnership
Date of entry into force	Bilateral negotiations began in the mid-1970s and the Euro-Mediterranean Partnership negotiations began in 1995 (the Barcelona Declaration).
Participants	EU15 and 12 Mediterranean states: Morocco, Algeria, Tunisia; Egypt, Israel, Jordan, the Palestinian Authority, Lebanon, Syria; Turkey, Cyprus and Malta. Libya has observer status. Cyprus and Malta are joining the EU in 2004 while Turkey is still a candidate.
Type of PTA	Bilateral and regional cooperation agreements. Aim is a free trade area in 2010.
Objectives	The aim is to establish a free trade area. Beyond economics and trade, the regional partnership will focus on peace and stability based on human rights and democracy, and on development of human resources and cultural understanding.
Progress to date	Negotiations partially complete. Bilateral relations are currently governed by either the 1970s' Cooperation Agreements or the 1990s' Euro-Mediterranean Association Agreements (the Barcelona Process).
Agricultural provisions	The aim is to achieve progressive and reciprocal liberalisation of trade in agricultural products including elimination of unwarranted technical barriers and harmonisation of plant health and veterinary standards.
Non-agricultural provisions	Trade in manufactures and services will be progressively liberalised.
General non-tariff barriers	To be negotiated.
Rules of origin	The aim is harmonisation of rules of origin with the pan-European system of cumulation.
Related policy agreements	On the agenda are items such as cooperation in modernising the agricultural sector taking account of environmental concerns, harmonisation of norms, standards, intellectual and industrial property protection, competition policy, and achieving the right economic, financial, legal or institutional conditions, especially for small and medium-sized enterprises being the main engine for growth and development in the Mediterranean region. EU assistance programs are supporting substantial fiscal, economic, and industrial reforms in the Mediterranean countries.
Rules of accession	New members must accept the full terms of the Barcelona Declaration and related actions.

Sources: http://europa.eu.int/comm/external_relations/euromed/index.htm
http://europa.eu.int/comm/external_relations/euromed/rsp/rsp02_06.pdf

PTA	EU-MERCOSUR
Date of entry into force	Negotiations began in June 2000
Participants	EU, Argentina, Brazil, Paraguay and Uruguay
Type of PTA	Reciprocal PTA with the aim of a free trade area.
Objectives	The aim is to establish a comprehensive political and economic partnership covering three pillars: a political dialogue, a co-operation pillar, and a trade chapter. The latter will encourage and liberalise substantially all trade taking into account - in conformity with WTO rules - the sensitivity of certain goods.
Progress to date	Negotiations partially complete. The aim is to complete the internal Mercosur program so as to form the free trade area by 1 January 2006.
Agricultural provisions	All goods are under consideration for liberalisation. Special attention has been given to wine and spirits. The EU will support financially a necessary agrarian reform to align the Mercosur countries with European legislative standards. High on the agenda are sanitary and phytosanitary measures, consumer protection, and food safety. The EU expects the reform projects to concentrate on the poorest rural regions focusing on sustainability and environmental concerns. The EU anticipates an opening for multifunctionality.
Non-agricultural provisions	All sectors are under consideration for liberalisation.
General non-tariff barriers	The agreement covers intellectual property rights, competition policies, trade defence instruments, technical barriers to trade, and a dispute settlement mechanism. National legislation on safeguards, anti-dumping, and anti-subsidy are essentially similar for Mercosur and the EU.
Rules of origin	Origin criteria for Mercosur are similar to the pan-European system. Under negotiation are their main differences in the determination of values, the origin of fishery products, the prohibition of drawback, and certification/verification of origin.
Related policy agreements	On the agenda are items such as government procurement, investment, exchange of information on services, and sustainable development. There are supporting horizontal bilateral EC programs that focus on institutions, economic and trade structures, civil society, information, consumer policy, public administration, social development, science & technology, and poverty alleviation.
Rules of accession	New members of the agreement must be a member country of either EU or Mercosur.

Sources:

http://europa.eu.int/comm/external_relations/mercosur/bacground_doc/fca96.htm

http://europa.eu.int/comm/external_relations/mercosur/intro/index.htm

http://europa.eu.int/comm/trade/bilateral/mercosur/index_en.htm

http://europa.eu.int/comm/external_relations/mercosur/bacground_doc/work_paper0.htm

<http://europa.eu.int/comm/world/lac/merc.htm>

PTA	Caribbean Basin Economic Recovery Act (CBERA) of the United States
Date of entry into force	1983, extended and expanded in 1990
Participants	24 Caribbean countries: Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Costa Rica, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Montserrat, Netherlands Antilles, Nicaragua, Panama, St. Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, British Virgin Islands.
Type of PTA	Non-reciprocal preferential trade agreement.
Objectives	The aim of the trade component is to promote export-oriented growth in the Caribbean region and to diversify the economies away from traditional agricultural products and raw materials. The agreement expands the US-GSP program by offering duty-free access or reduced duties on most products from the region.
Progress to date	The agreement has been implemented.
Agricultural provisions	Several exceptions pertain to liberalising trade in agricultural goods. Several products are still subjected to quotas and other restrictions.
Non-agricultural provisions	Compared to the US GSP, tariffs and quotas have been removed on new textile and apparel products, although still excluding many products. Some countries do, however, have virtually unlimited access for certain apparel products that meet requirements concerning the use of U.S. textile inputs. Tariff preferences have been extended beyond MFN treatment for several items not covered under the GSP, including luggage, handbags, and leather apparel.
Rules of origin	See the general comment on the US preferential rules of origin in the table summarising the US GSP. The rules of the US-GSP are expanded in the CBERA by allowing for cumulation among CBERA beneficiaries for all eligible products and allowing for the use of U.S.-made inputs in meeting the 35 percent value-added threshold.
Related policy agreements	The "competitive need limit" in the US-GSP (see that table) is abolished in the CBERA.
Rules of accession	Decisions concerning beneficiary status are made by the US government and are influenced by the form of government, the absence of government violations of US copyright laws, the existence of an extradition treaty with the US, and the protection of internationally recognised workers' rights. Other requirements have since been added.

Sources:

<http://www.gao.gov/new.itms/d01647.pdf>

<http://www.mac.doc.gov/CBI/webmain/intro.htm>

<http://www.ustr.gov/regions/whemisphere/camerica/cbi.shtml>

<http://apparel and footwear.org/data/CBTPA%20Annual%20Review%202001.pdf>

PTA	African Growth and Opportunity Act (AGOA) of the United States - Part I of the Trade and Development Act of the United States
Date of entry into force	2000, renewed in 2002
Participants	38 Sub-Saharan African countries: Benin, Botswana, Cameroon, Cape Verde, Central African Republic, Chad, Rep. of Congo, Democratic Rep. of Congo, Cote d'Ivoire, Djibouti, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome & Principe, Senegal, Seychelles, Sierra Leone, South Africa, Swaziland, Tanzania, Uganda and Zambia.
Type of PTA	Non-reciprocal preferential trade agreement.
Objectives	The general trade and investment objectives are: (1) To reinforce Africa's own economic and political reform efforts; (2) To provide greater African access to U.S. technical assistance and trade finance facilities; (3) To promote high-level U.S.-Sub-Saharan African dialogue on trade and investment issues. The agreement expands the US-GSP program by granting duty-free treatment for imports of a number of products from eligible sub-Saharan African countries. (An expansion by more than 1800 tariff line products besides the standard list of 4,600 products available to all US-GSP beneficiary countries.)
Progress to date	Agreement implemented. The preferences expire 2008, which is 2 more years than under the GSP.
Agricultural provisions	Zero tariffs on eligible agricultural imports. According to GAO (2001) 84% of agricultural products are covered. In the few cases where U.S. TRQs exist for agricultural products, imports will enter duty-free within the quota, but remain subject to any over-quota duties for shipments above the applicable quantitative limit.
Non-agricultural provisions	No tariffs on eligible products and no U.S. quotas on eligible textiles and apparels. According to GAO (2001) only 2% of non-agricultural and non-textiles/apparel exports are excluded from the AGOA programme. Textiles and apparel products are considered sensitive, however, and only 18% are covered.
Rules of origin	See the general comment on the US preferential rules of origin in the table describing the US GSP. The rules of US-GSP in the AOGA are expanded by allowing for cumulation among AGOA beneficiaries for all eligible products and for limited use of U.S.-made inputs. There are special rules for textiles and apparel exports. The poorest countries of AGOA (Annual GNP of under \$1,500) are allowed - up to a certain amount - to use fabric inputs from all over the world until September 2004, although there are limits on imports based on non-US materials. Furthermore, a traded article needs a Certificate of Origin, and an official determination - by the US Trade Representative and the US International Trade Commission - that the product is not import-sensitive when it is of African origin. Duty-free access requires that an effective visa system be established in the beneficiary country detecting illegal transshipments and counterfeits, and to enforce verification procedures.
Related policy agreements	Provision is granted for providing technical assistance to help build the Sub-Saharan countries' capacity to take advantage of program preferences.
Rules of accession	The US President determines what countries are eligible. Besides basic requirements such as core human and worker rights, the country must have eliminated barriers to U.S. trade and investments and shown continual progress toward fighting corruption and toward establishing a market-based economy that protects private property rights, the rule of law, and economic policies to reduce poverty in order to be eligible for preferential treatment.

Sources: <http://www.gao.gov/new.items/d01647.pdf>, <http://www.agoa.gov/>,
http://www.agoa.gov/resources/annual_3.pdf
<http://www.ustr.gov/regions/africa/annex2a.pdf>, <http://www.agoa.gov/resources/apptxtpls.pdf>

PTA	Caribbean Basin Trade Partnership Act (CBTPA) of the United States - Part II of the Trade and Development Act of the United States
Date of entry into force	2000
Participants	24 countries are potential beneficiaries, but only 11 have access to the CBTPA benefits due to various eligibility requirements (see below).
Type of PTA	Nonreciprocal trade agreement.
Objectives	The agreement modifies and expands the CBERA agreement by allowing new imports of qualifying apparel from CBERA countries to enter the US duty- and quota-free, and by providing reduced duties for other products previously excluded under the CBERA.
Progress to date	Agreement implemented. Preferences expire 2008, or when the FTAA, or any similar free trade agreement between the United States and CBERA beneficiary countries, enters into force.
Agricultural provisions	Several agricultural products such as sugar, rice, and tobacco continued to be covered by TRQs.
Non-agricultural provisions	Provision of greater access to imports of footwear, watches, petroleum and petroleum products, leather apparel, and canned tuna and other previous excluded products. Elimination of duties on imports of most textiles and apparels, even through quota restrictions remain in several cases.
Rules of origin	See the general comment on the US preferential rules of origin in the table describing the US GSP. Beneficiaries of CBTPA are granted cumulation with other CBTPA beneficiaries. CBTPA rules provide for limited use of U.S.-made inputs. Beneficiaries must work towards meeting NAFTA customs standards that allow verification of origin.
Related policy agreements	None.
Rules of accession	Besides basic requirements such as core worker rights and protection of intellectual property, the country must be shown commitment in completing the FTAA or any similar free trade agreements with the United States. A number of other eligibility requirements have been assessed, including fulfillment of WTO obligations.

Sources:

<http://www.gao.gov/new.items/d01647.pdf>

<http://apparel and footwear.org/data/CBTPA%20Annual%20Review%202001.pdf>