



WORLD TRADE
ORGANIZATION

World Trade Report 2011

The WTO and preferential trade agreements:
From co-existence to coherence



What is the World Trade Report?

The World Trade Report is an annual publication that aims to deepen understanding about trends in trade, trade policy issues and the multilateral trading system.

Using this report

The 2011 World Trade Report is split into two main parts. The first is a brief summary of the trade situation in 2010. The second part focuses on the special theme of preferential trade agreements.

Find out more

Website: www.wto.org
General enquiries:
enquiries@wto.org
Tel: +41 (0)22 739 51 11

Contents

| | |
|---|------------|
| Acknowledgements and Disclaimer | 2 |
| Foreword by the WTO Director-General | 3 |
| Executive summary | 5 |
| I World trade in 2010 | 18 |
| II The WTO and preferential trade agreements: From co-existence to coherence | 40 |
| A Introduction | 42 |
| 1. Perspectives and insights in the World Trade Report 2011 | 44 |
| 2. Structure of the report | 45 |
| B Historical background and current trends | 46 |
| 1. The formation of PTAs: a historical perspective | 48 |
| 2. The evolution of PTAs: stylized facts | 54 |
| 3. Trade flows related to PTAs | 63 |
| 4. How preferential is trade? | 72 |
| 5. Conclusions | 85 |
| C Causes and effects of PTAs: Is it all about preferences? | 92 |
| 1. Motives for PTAs | 94 |
| 2. The standard economics of PTAs | 100 |
| 3. Going beyond the standard analysis | 109 |
| 4. Conclusions | 114 |
| Technical Appendix: Systemic effects of PTAs | 118 |
| D Anatomy of preferential trade agreements | 122 |
| 1. Are lower tariffs still important for PTAs? | 124 |
| 2. Patterns in the content of PTAs | 128 |
| 3. Production networks and deep PTAs | 145 |
| 4. African regional cooperation: lessons from deep integration? | 151 |
| 5. Conclusions | 153 |
| Appendix tables | 157 |
| E The multilateral trading system and PTAs | 164 |
| 1. Systemic effects of preferential tariff liberalization | 166 |
| 2. Deep PTA provisions and the multilateral trading system | 168 |
| 3. Regionalism and the WTO: historical perspective | 182 |
| 4. The relationship between PTAs and the WTO | 187 |
| F Conclusions | 196 |
| Statistical appendix | 199 |
| Bibliography | 228 |
| Technical notes | 239 |
| Abbreviations and symbols | 243 |
| List of figures, tables, boxes and maps | 245 |
| WTO members | 249 |
| Previous World Trade Reports | 250 |

Acknowledgements

The *World Trade Report 2011* was prepared under the general direction of the Deputy Director-General Alejandro Jara and supervised by Patrick Low, Director of the Economic Research and Statistics Division. The writing of this year's report was coordinated by Nadia Rocha and Robert Teh. The principal authors of the Report were Marc Bacchetta, Cosimo Beverelli, John Hancock, Alexander Keck, Gaurav Nayyar, Coleman Nee, Roberta Piermartini, Nadia Rocha, Martin Roy, Michele Ruta, Robert Teh and Alan Yanovich. Other written contributions were provided by Marc Auboin, Manfred Elsig, Trudi Hartzenberg and Roy Santana. Special acknowledgment is owed to Richard Baldwin for his many suggestions and contributions to the report. Trade statistics information was provided by the Statistics Group of the Economic Research and Statistics Division, coordinated by Hubert Escaith, Julia de Verteuil, Andreas Maurer and Jurgen Richtering. Aishah Colautti assisted in the preparation of the graphical input and Paulette Planchette, assisted by Véronique Bernard, prepared the bibliography. Research assistance was provided by Hans Baumgarten, Pavel Chakraborty, Claudia Hofmann, Joelle Latina, Alen Mulabdic, Andreas Lendle, and Gianluca Orefice.

Other Divisions in the WTO Secretariat provided valuable comments on drafts at various stages of

preparation. The authors are particularly grateful to several individuals in the Legal Affairs Division (Valerie Hughes, Gabrielle Marceau and Edna Robles), the Trade in Services Division (Rolf Adlung) and Trade Policies Review Division (Rohini Acharya, Jo-Ann Crawford, and Christelle Renard). The following individuals from outside the WTO Secretariat also made useful comments on earlier drafts: Dale Andrews, Ann Capling, Manfred Elsig, Gary Hufbauer, Lena Lindberg, Xuepeng Liu, Mark Manger, Jean-Christophe Maur, Alessandro Nicita, Emanuel Ornelas, Joost Pauwelyn, John Ravenhill, Robert Staiger, Kati Suominen, Tania Voon, Peter Williams, and John Whalley.

The production of the Report was managed by Paulette Planchette of the Economic Research and Statistics Division in close cooperation with Anthony Martin, Heather Sapey-Pertin and Helen Swain of the Information and External Relations Division. The translators in the Languages, Documentation and Information Management Division worked hard to meet tight deadlines. This year the WTO Secretariat launched a Webpage discussion on the topic of the World Trade Report 2011. The Webpage, which attracted many stimulating contributions, was managed by Joelle Latina, in collaboration with Anthony Martin.

Disclaimer

The *World Trade Report* and any opinions reflected therein are the sole responsibility of the WTO Secretariat. They do not purport to reflect the opinions or views of members of the WTO. The main authors of the Report also wish to exonerate those who have commented upon it from responsibility for any outstanding errors or omissions.

Foreword by the WTO Director-General

This year's *World Trade Report* takes an in-depth fresh look at preferential trade. The choice of this topic reflects two significant trends in international trade relations, both of which carry far-reaching implications for the multilateral trading system. The first and most readily evident of these is the continuing growth and increasing prominence of preferential trade agreements (PTAs). In the last two decades, the number of PTAs has increased more than four-fold, to around 300 active agreements today. There is no reason to assume that PTAs will cease to grow in number or that they will not form part of the long-term tapestry of international trade relations. Secondly, the content of PTAs continues to evolve and deepen, reflecting important changes in the world economy. This too raises vital questions about the focus and reach of the WTO, and the value assigned by governments to globally-based trade relations.

The perennial concern about the relationship between the multilateral trading system and PTAs has provoked different reactions among commentators and analysts. Some would emphasize a clash of systems and inherent inconsistencies between discriminatory and non-discriminatory approaches to trade relations. Others would point to the growing prominence of PTAs as a reflection of the demise of multilateralism. Others still would assert that regional and multilateral arrangements are in essence complementary and need to be fashioned accordingly. None of these perspectives can singly capture the complexity of international trade relations in a globalizing world.

Our report seeks to navigate a way through these complexities in bringing new data and analyses to understand these issues. It acknowledges the multiple motivations for preferential approaches. At the same time, the report identifies important ways in which the focus of trade policy, particularly of the preferential variety, is being reshaped to reflect the consequences of past policies as well as changes in production structures internationally.

In earlier times PTAs were most likely to be motivated by the desire to avoid relatively high most-favoured nation (MFN) tariffs. The theory on free trade areas and customs unions mirrored this reality by placing the notions of trade creation and trade diversion centre-stage. At the same time, considerable attention has been paid to the discriminatory effects of rules of origin on the trade of third parties. More recently, this context has lost some of its relevance because underlying realities have changed. As the report documents, average tariffs have fallen markedly in recent years, making tariff preferences a more minor motivation for entering into PTAs. Furthermore, it seems that where MFN tariffs remain high they are also excluded from preferential reductions, additionally weakening this motivation.

As tariff preferences have diminished in importance, non-tariff measures have become relatively more significant as determinants of market access and the conditions of competition. Non-tariff measures come in many shapes. They may be designed to influence competitive conditions in markets, just like tariffs, or they may focus on public policy concerns such as health, safety, and the environment. These public policy interventions also have trade consequences and may be more or less discriminatory in their effects.

For the most part, it would seem that non-tariff measures of the public policy variety have remained focused on consumer welfare and not benefits to producers. However, the fact that interventions putatively designed to protect consumers may also favour producers can lead to concerns over hidden protection and unwarranted market segmentation. In a world where the WTO is having difficulty advancing an updated multilateral agenda, the risks of preference-based discrimination and market disintegration built around regulatory divergence should not be disregarded.

An important additional element in the equation, stemming from the emergence of supply chain production as a prominent mode of twenty-first-century integration, is that new regulatory matters are increasingly on PTA agendas. These include issues such as investment, competition policy, government procurement and harmonization or mutual recognition of product and process standards. The report analyses the content of a large number of PTAs in terms of whether they augment WTO provisions in particular policy areas and introduce entirely new issues. Both of these tendencies are identified in many PTAs, particularly those that have entered into force more recently. Here, then, is another reason why we need to remain attentive to policy fragmentation. To the extent that the desire for deeper integration under PTAs, in both WTO and non-WTO areas of regulation, is driven by the logic of vertically integrated international production structures, one is less likely to encounter discriminatory intent lurking behind regulatory cooperation in PTAs. But we should be mindful of the possibility that even in the absence of intent, market segmentation and discriminatory outcomes could be an unavoidable consequence of these arrangements.

The report pays explicit attention to the question of what is needed in a multilateral context to ensure that



PTAs and the WTO do not simply run on parallel tracks, offering plentiful opportunities for inconsistency and conflict. This focus explains the subtitle of the report – “From co-existence to coherence”. What then, should the WTO be doing? It has often been said that if the WTO made progress in multilateral negotiations, both on market access and rules, this would soften the likelihood of clashes and inconsistencies with PTAs. This is undoubtedly a valid point, but the experience of the Doha Development Round during the last decade has raised questions about the ability and willingness of governments to advance the multilateral agenda. It has also raised the need to connect the multilateral and bilateral “brains” of trade policy drivers and actors. We need a better record if we are to attain greater coherence between the WTO and PTAs through successful multilateral negotiations.

A second possibility is to continue the quest for greater legal clarity and detail in the WTO rules about what is permissible under PTAs. Progress here could blunt the likelihood of damaging discriminatory outcomes under PTAs, whether intentional or otherwise. Here again, however, years of effort in the Doha Round and before to address multilateral provisions on PTAs have yielded limited results. It is for governments to determine whether they need greater legal certainty in this domain. If they do, perhaps a more circuitous route to the objective is precisely the one that members have recently embarked upon. The provisional establishment of the Transparency Mechanism for Regional Trade Agreements may pave the way for non-litigious deliberations that could build confidence and understanding among members regarding the motives, contents and policy approaches underpinning regional initiatives, leading over time to a shared vision and reinforced legal provisions.

Thirdly, to the extent that PTAs are motivated by a desire for deeper integration rather than market segmentation, there could be a role for the WTO to promote greater coherence among non-competing but divergent regulatory regimes that in practice cause geographical fragmentation or raise trade costs. This agenda has been referred to as multilateralizing regionalism. In some cases the multilateralization effect occurs *de facto* because regulatory reforms undertaken in a PTA context are applied in a non-discriminatory manner. This MFN dividend could be built upon in other policy areas. The feasibility of this approach would need to be researched further.

Whatever view one takes of precisely how to promote a global orientation in trade relations, there is no doubt that we need to build towards a more stable and healthier trading environment, where alternative trade policy approaches are mutually supportive and balance equitably the needs of all nations. It is to the discussion of this agenda that this year's *World Trade Report* seeks to make a contribution. I hope members will have a first opportunity to consider some of the issues in this report at the upcoming 8th WTO Ministerial Conference in December 2011.



Pascal Lamy
Director-General

Executive summary

Section A: Introduction

The report is divided into four main parts. The first provides an historical analysis of preferential trade agreements (PTAs) and a description of the current landscape. It documents the large increase in PTA activity in recent years, breaking this down by region, level of economic development, and type of integration agreement. It provides a precise estimate of how much trade in PTAs receives preferential treatment.

The second section discusses the causes and consequences of PTAs, focusing on both economic and political factors. A distinction is made between shallow and deep integration in order to suggest that traditional theories do not fully explain the emerging pattern of PTAs. The report examines in particular the role of international production networks in prompting the creation of deep PTAs.

The third section focuses on the policy content of PTAs, with particular reference to the depth and scope of commitments compared with those contained in the WTO agreements. It supports the link between production networks and PTAs with both statistical evidence and case studies.

The final section identifies areas of synergies and potential conflicts between PTAs and the multilateral trading system and examines ways in which the two "trade systems" can be made more coherent.

See page 42

Section B: Historical background and current trends

The formation of trading blocs: a historical perspective

Global trade relations have never been uniform or monolithic and regional trading arrangements have been around for centuries.

Regional trading arrangements have encompassed empires and colonial spheres of influence, bilateral commercial treaties and, more recently, multilateral agreements. They have often overlapped and interacted, creating a trade landscape defined less by clear-cut choices between regionalism and multilateralism – or discrimination and non-discrimination – than by the complex interplay, even competition, among multiple trade regimes.

Despite this complexity, in more recent times trade co-operation has become broader and more inclusive. Defining landmarks in this trend have been the establishment of the GATT in 1947 and the WTO in 1995. At the same time, trade relations have become deeper and more far-reaching, incorporating areas such as services trade, foreign investment, intellectual property and regulatory regimes. These tendencies are a clear reflection of the growing integration of the world economy and the "internationalization" of policies that were once considered domestic. In some cases, regional agreements have progressed further in this direction than the over-arching multilateral framework.

Progress has not been continuous, and there have been major set-backs and reversals along the way. The economic depression of the early 1870s, for instance, effectively brought the expansion of Europe's bilateral trade treaties to an end, just as the "Great Depression" of the early 1930s helped fuel the spread of defensive and increasingly hostile trade blocs in the inter-war period. Conversely, the push for a more open and inclusive trading order has been strongest during periods of economic expansion and international peace. A main justification for creating the GATT in the post-war period was the widely held belief that hostile trade blocs had contributed directly to the economic chaos of the 1930s and the outbreak of the Second World War.

The establishment of the post-war multilateral trading system did not diminish the attraction of bilateral or regional approaches to trade arrangements and led instead to a period of creative interaction and sometimes tension between multilateralism and regionalism.

The first wave of regionalism in the late 1950s and 1960s was driven by Western Europe's push for continental integration, leading to the establishment of the European Economic Community (EEC) in 1957 and the European Free Trade Agreement (EFTA) in 1960. Throughout this period, GATT tariff cutting and membership enlargement moved in tandem, first with the Dillon Round in 1960-61 and then with the much more ambitious Kennedy Round between 1964 and 1967.

Subsequent waves of regionalism, from around the mid-1980s onwards, reflected an increasing embrace of such arrangements in the Americas, Asia and Africa, as well as in Europe. The continuing proliferation of regional agreements over the last 25 years involves a wide network of participants – including bilateral, plurilateral and cross-regional initiatives – and encompasses countries at different levels of economic development – including “developed-developed”, “developing-developing”, and “developed-developing” alliances. These newest agreements also often address WTO+ type issues, such as services, capital flows, standards, intellectual property, regulatory systems (many of which are non-discriminatory) and commitments on labour and environment issues.

The Uruguay Round (1986-1994) coincided with a period of growing regionalism and several issues, including services and intellectual property, were addressed for the first time both regionally and multilaterally. The continuing proliferation of PTAs in parallel with the Doha Round has provoked a debate about coherence, compatibility and potential conflict between multilateral and regional approaches to trade cooperation. Among the questions addressed in this debate are whether burgeoning regionalism signals a weakening of international commitment to open trade, and foreshadows a return to a more fragmented trading system. Alternatively, PTAs may be part of a broad pattern seen since the Second World War – where some countries want to move “further and faster” in trade rule-making than others, where bilateral and regional agreements can have a positive, “domino effect”, encouraging the pace of multilateral cooperation (and vice versa), and where regional and multilateral agreements are becoming coherent, not conflicting, approaches to managing a more complex and integrated world trading order.

Stylized facts about PTAs

PTA participation has accelerated over time and become more widespread.

From the 1950s onwards, the number of active PTAs increased more or less continuously to about 70 in 1990. Thereafter, PTA activity accelerated noticeably. The number of PTAs in force in 2010 was close to 300. The surge in PTA activity is driven both by a growing number of countries taking an interest in

reciprocal trade opening and by an increase in the number of PTAs per country. All WTO members (with the exception of Mongolia) belong to at least one PTA.

PTA activity has transcended regional boundaries.

One half of the PTAs currently in force are not strictly “regional”. The advent of cross-regional PTAs has been particularly pronounced in the last decade. The trend towards a broader geographical scope of PTAs is even more pronounced for those PTAs that are currently under negotiation or have recently been signed (but are not yet in force). Practically all of these are of the cross-regional type.

PTAs have seen opposing trends towards further rationalization on the one hand and a sprawling web of new bilateral and overlapping deals on the other.

Numerous bilateral agreements have been consolidated into plurilateral agreements either via accessions or negotiations between existing PTAs. Examples include successive EU enlargements, the consolidation of bilateral pacts between Eastern European countries in the context of the Central European Free Trade Agreement (CEFTA) and the conclusion of a PTA between Mercosur and the Andean Community in the Latin American Integration Association (LAIA) framework.

At the same time, a parallel trend is discernible towards bilateral deals across regions. While many of these bilateral arrangements are between developing countries, developed countries have also played a part. A consequence of this trend is an increased fragmentation of trade relations, with countries belonging to multiple, sometimes overlapping PTAs.

Free trade agreements are far more prevalent than customs unions and a number of products continue to be excluded from preferential access.

Free trade agreements account for more than three-quarters of all PTAs in force. Although GATT Article XXIV requires that import duties are to be eliminated on substantially all trade among the members of customs unions and free trade areas, some products are often excluded. A recent study of PTAs involving four major trading countries and their partners shows that about 7 per cent of tariff lines in the sample are excluded, either temporarily or permanently. These products are mainly agricultural or food items, and labour-intensive manufactured products such as footwear and textiles.

The coverage of PTAs in terms of policy areas has widened and deepened over time.

Notwithstanding the prevailing pattern of specific product exclusions from tariff elimination, most recent

PTAs go beyond traditional tariff-cutting exercises and may include such policy areas as services trade, investment, intellectual property, technical barriers to trade and dispute settlement. For instance, about one-third of PTAs in force today contain services commitments compared to less than a tenth in 1990.

Stylized facts about trade flows related to PTAs

The value of world trade between members of preferential trade agreements has increased as the number of PTAs has expanded.

Intra-PTA trade represented about 35 per cent of total world merchandise trade in 2008, compared with 18 per cent in 1990.¹ Preferential trade – that is, trade actually receiving preferential tariff treatment – represents a much smaller share of world trade. However, it is still worth considering total trade among PTA members because the latest generation of trade agreements may be motivated by a broader set of considerations than just tariff reductions, including the development and maintenance of supply chains.

The share of manufactured goods in total intra-PTA exports is the same as the share of manufactured goods in world trade (65 per cent), and this share does not vary much across PTAs. However, intra-PTA trade in parts and components does vary significantly across trade agreements, suggesting a link between some PTAs and vertically integrated production structures.

Plurilateral trade agreements accounted for half of global intra-PTA trade in 2008, while bilateral trade agreements (including those where one party is a PTA) accounted for the other half.

If many recent PTAs were designed to support production networks, we might expect to see greater geographic concentration of trade over time, since many production networks are regional in nature. Evidence of this exists only for certain regions.

The share of intra-regional trade in Europe's total exports remained roughly constant at around 73 per cent from 1990 to 2009. Asia's intra-regional trade share increased from 42 per cent to 52 per cent of total exports during the same period. North America's intra-regional trade share rose from 41 per cent in 1990 to 56 per cent in 2000, but then fell back to 48 per cent in 2009, so there appears to be no global pattern that applies to all industrialized regions. Developing regions that predominantly export natural resources have seen the share of intra-regional trade in their total exports shares rise substantially over the past 20 years or so, but they remain quite small.

The extent to which trade has become more geographically concentrated differs depending on the

type of goods being traded. The share of intra-regional trade in world exports of manufactured goods was quite stable between 1990 and 2009, fluctuating between 56 and 59 per cent, but the share for office and telecom equipment jumped from 41 per cent to 58 per cent. Taken together, these results suggest that supply chains may be an important component of recent PTA activity in Asia and in the electronics sector, but not so much in other regions or economic sectors.

How preferential is trade?

Trade among PTA members is not all preferential on account of the fact that a significant portion of intra-PTA trade is MFN duty-free.

In a sample covering imports of the 20 largest importers from all their trading partner countries – accounting for 90 per cent of world merchandise trade in 2008 – only 16 per cent qualified as preferential trade, assuming full utilization of preferences.² In other words, despite the explosion of PTAs in recent years, 84 per cent of world merchandise trade still takes place on a non-discriminatory most-favoured nation (MFN) basis. This is firstly because half of world trade is already subject to zero MFN tariff rates. Secondly, PTAs tend to exempt high MFN-tariff items from preferential treatment and continue to trade these products at MFN rates.

Existing preferential tariffs reduce the global trade-weighted average tariff by one percentage point, and 90 per cent of this reduction (i.e. 0.9 percentage points) is due to reciprocal preference regimes. Only 2 per cent of global imports are eligible for preferential tariffs where preference margins are 10 per cent or more. For most large exporters, preferential tariffs matter little for the bulk of their exports. This is not always true for individual sectors especially in certain smaller economies exporting a narrow set of commodities (mainly sugar, rice, bananas, fish and garments), where preference margins may be more substantial. There is a possibility though that these preferences will be eroded over time as the countries to which they export enter into more PTAs.

Data from some customs administrations suggest a high rate of preference utilization.

Information on the value of imports under different preferential regimes from the EU and US reveal preference utilization rates of 87 and 92 per cent respectively. Preference utilization rates are uniformly high for most exporting countries, preferential regimes and types of products. Analysis shows that both preference margins and import values have a positive and statistically significant impact on preference utilization. Surprisingly, however, many individual items facing tariffs below 1 per cent still exhibit high utilization rates. This might suggest either that the

cost of using preferential tariffs in certain cases is negligible or that other benefits are linked to using these preferences, perhaps related to privileged customs clearance, qualification under specific security measures or advantages in case of re-export to other PTA partners.

Data from firm surveys offer a more detailed and mixed picture of preference utilization rates.

Firm surveys carried out in 2007-08 by the Asian Development Bank (ADB) and the Inter-American Development Bank (IDB) in six East Asian countries and four Latin American countries respectively reveal that the use of PTA preferential tariffs is not uniformly high. For instance, the ADB survey shows that only around one-quarter of firms in the sample currently used these preferences. However, this number doubled when plans for using PTA preferences in the future were factored in. The IDB survey shows that only 20 per cent of the firms in the sample did not make any use of PTA preferences.

Complications and costs involved in complying with rules of origin were cited as considerations influencing preference utilization, especially where preference margins were low. The surveys also cited other firm-specific factors that influenced preference utilization. For instance, larger, more experienced firms, with higher foreign equity and more information about PTA provisions, were more likely to use preferential tariffs. Firms in a number of countries suggested that a lack of information on PTAs was the major explanation for the non-use of these preferences.

See page 46

Section C: Causes and effects of PTAs: is it all about preferences?

Motives for PTAs

Economic and political science theories provide various explanations for why countries establish preferential trade agreements.

Unilateral trade policy choices can have “beggar-thy-neighbour” consequences, such as unfavourably affecting the ratio of import to export prices (terms-of-trade effect) or a production relocation effect. Countries might be stuck in a situation characterized by high restrictions and inefficiently low levels of trade. A trade agreement could neutralize these beggar-thy-neighbour effects and achieve higher welfare. Economic theory suggests, however, that a multilateral agreement rather than a PTA is the best way to address the problem.

Gains in credibility suggest a second reason for signing a PTA. A government may choose to “tie its hands” through an international agreement in order to prevent future policy reversals that would be convenient in the short-run, but inefficient in the long term. A PTA may provide a stronger commitment than a multilateral agreement when a country is small in world markets.

“Non-traditional” reasons for why countries form PTAs include accessing a larger market, ensuring against preference erosion, increasing predictability of future trade policy, signalling stability to investors, and achieving deeper policy commitments.

The creation of PTAs cannot be understood without taking account of political circumstances. Political science explanations of PTA formation focus on the role of political integration, the role of domestic political considerations, the form of governments and institutions, diplomacy, and the role of power relations.

Changes in trade relationships may explain the growth of PTAs over time. Together with certain country characteristics, they may also explain the timing of PTA formation and enlargement.

The potential loss of market share for non-members of an existing PTA induces them to form new PTAs or join existing ones. These domino effects of PTA formation can be further strengthened with multilateral trade opening.

Among the factors accounting for the pattern of PTA formation and enlargement over time are the physical distance between countries, economic size, similarity in economic size, proximity of a potential entrant to an existing PTA, the extent of existing agreements facing a country pair, and the existing number of members in a PTA.

The standard economics of PTAs

The standard theory on the effects of PTAs suggests that preferential trade agreements increase trade between member countries and reduce trade with third-countries, leading to negative welfare effects for non-members of PTAs.

A PTA increases trade among members as exporters benefit from the elimination of tariffs in partner markets. Non-member countries suffer from a reduction of exports to member countries and a decline in the price of their exports in international markets.

In the traditional Vinerian analysis, preferential trade opening allows some domestic production to be replaced by imports from more efficient firms located in preference-receiving countries, leading to welfare gains (trade creation). At the same time PTAs may reduce imports from more efficient non-member countries, implying a welfare loss (trade diversion). The net welfare effect of PTAs depends on the relative magnitude of these opposing effects.

Supply chain or vertical production arrangements may change the welfare calculus.

The possibility of trading components used in the production of final goods alters the calculation of trade creation and trade diversion. Although the outcome is still uncertain, welfare-reducing PTAs trading only in final goods could become welfare-improving once members trade in parts and components along a supply chain. In this way, international production networks can mitigate the trade diversion effects of PTAs, although this is by no means guaranteed.

The trade effects of a preferential agreement depend on the economic characteristics of PTA members.

The “natural trading partners” hypothesis suggests that trade agreements among countries which trade intensively are more likely to be trade-creating. Preferential trade agreements may also have dynamic effects, for instance driven by economies of scale, and effects on the location of production.

Several studies have tested the traditional theories on trade creation and trade diversion. While this literature is not conclusive, it suggests that trade diversion may play a role in some agreements and in some sectors, but it does not emerge as a key effect of preferential agreements.

When governments have political economy reasons for signing a PTA, the question arises whether trade-diverting or trade-creating agreements are more politically viable and

whether a PTA reduces or increases the incentive to set inefficiently high external tariffs.

In shaping their PTAs, governments may not be influenced exclusively by the welfare implications of agreements. If organized lobby groups carry sufficient weight in the political preferences of governments, trade-diverting PTAs could be politically viable in some circumstances.

Moreover, conflicting political economy forces may act upon external tariffs agreed in a PTA. On the one hand, PTAs destroy protectionist benefits and lower the demand for high external tariffs. On the other hand, high external tariffs can be used in PTAs to sustain cooperation on non-trade issues. The empirical literature finds evidence of both effects.

Restrictive rules of origin (RoOs) in PTAs may divert or suppress trade in intermediate goods.

Restrictive RoOs may make it profitable for firms in a country to engage in “supply switching” – replacing an efficient non-member supplier of an intermediate good with a less efficient one, either from a partner country (trade diversion) or a domestic firm (trade contraction or suppression). Furthermore, by influencing the sourcing of intermediate goods, RoOs are likely to increase firms' costs and hence have an adverse effect on final goods trade.

This discrimination, which leads to trade diversion by protecting the exports of certain industries in PTA member countries, can be resolved through the “diagonal cumulation” of RoOs. Under this arrangement, participating countries agree that in all PTAs concluded among themselves, materials originating in one country can be considered to be materials originating in any of the other countries.

Going beyond the standard analysis

The concept of deep integration is widely used to refer to any arrangement that goes beyond a simple free trade area.

Trade agreements that mostly deal with border measures are often defined as “shallow” agreements. In contrast, preferential agreements that include rules on other domestic policies are referred to as “deep” agreements.

Two distinct dimensions of deep integration are the “extensive” and the “intensive” margin. The extensive margin refers to an increase in the policy areas covered by an agreement, while the intensive margin refers to the institutional depth of the agreement. The extensive and intensive dimensions of deep agreements may be related, as an extension of the coverage of an agreement may require the creation of common institutions for its proper functioning.

Deep integration and trade are intimately related.

Deep arrangements may be necessary to promote trade in certain sectors and economic integration more broadly. For instance, harmonization or mutual recognition of certain regulations may be a prerequisite for trade in services, or competition policy rules may be required to allow comparative advantage to materialize.

Economic theory also suggests that the degree of trade openness is a determinant of deep agreements. In this respect, shallow and deep integration may be seen as complementary where the first generates a demand for governance that the second can provide.

An institutional challenge for the WTO is to find an approach that facilitates deeper integration sought by its members while maintaining compatibility with the non-discrimination principle.

The rise in international production networks illustrates the complementarity between trade and governance which is at the core of successful deep agreements.

In order for cross-border production networks to operate smoothly, certain national policies need to be harmonized or rendered mutually compatible to facilitate business activities in several countries. This generates a demand for deep forms of integration.

Developed countries were the first movers in the attempt to provide some international rules to further encourage international fragmentation of production. Agreements such as the EU Single Market Programme or the US-Canada free trade area can be explained (at least in part) in terms of increased demand for deep integration generated by the needs of international production sharing arrangements.

The continuous expansion of production sharing between developed and developing countries requires deeper agreements to fill the governance gap between countries. An agreement such as the North American Free Trade Agreement, for example, includes disciplines going beyond preferential tariffs that are required to facilitate production sharing between the United States and Mexico. In Europe the Euro-Mediterranean agreements fulfil the same objective.

The recent wave of preferential agreements may (at least in part) be an institutional response to new circumstances created by the growth in offshoring. In this sense, PTAs are efficiency-enhancing rather than beggar-thy-neighbour (trade-diverting) agreements.

Deep integration may involve several trade-offs that need to be addressed.

A basic trade-off arises between the benefits of common policies and the costs of harmonization when policy preferences differ among member countries.

Deep integration lowers trade costs and provides shared benefits, such as common rules and a stable monetary system, that the market or national governments fail to offer. However, no unifying analysis is possible of the economic effects of deep integration, as these effects depend on the specific form that arrangements take.

Deep integration with advanced economies may create advantages for developing countries from importing best-practice institutions. However, costs may be involved if the common rules are distant from national preferences and the needs of developing countries.

Deep integration also has systemic effects. Deep agreements may impose costs on non-member countries. On the other hand, deep regional integration could provide an appropriate intermediate level of integration (e.g. common rules) between nation states and the global level in different behind-the-border areas.

See page 92

Section D: Anatomy of preferential trade agreements

Preferential tariffs and PTAs

Preference margins are small and market access is unlikely in many cases to be an important reason for creating new PTAs.

The estimated average applied tariff across all products and countries was 4 per cent in 2009, and the scope for exchanging preferential market access is therefore limited. Significant tariff barriers still exist in some sectors, however, such as agriculture and labour-intensive manufactured goods. However, PTAs do not appear to be about the removal of tariff peaks either. Most sensitive sectors remain sensitive (subject to higher tariffs) in PTAs. Approximately 66 per cent of tariff lines with MFN rates above 15 percentage points have not been reduced in PTAs.

When the advantage conferred by providing preferential access to an exporter is calculated with respect to the average applied tariff faced by all exporters to the same market rather than relative to the MFN rate, the share of global trade for which preferential market access matters is less than 13 per cent.

Patterns in the content of PTAs

PTAs cover many more policy areas than tariffs and frequently entail legally enforceable commitments.

In a sample of almost 100 PTAs, deep integration elements were classified into WTO+ areas and WTO-X areas. WTO+ refers to deeper integration in areas covered by the WTO and WTO-X refers to policy areas not covered in WTO agreements. The analysis confirms that many PTAs go beyond the WTO and these deep integration provisions are frequently enforceable legally.

As expected, WTO+ provisions universally include industrial and agricultural tariffs. An increasingly large number of PTAs now also include provisions on technical barriers to trade, services, intellectual property and trade-related investment measures. WTO-X provisions commonly include competition policy, investment and the movement of capital. About one-third of the PTAs in the sample also include environmental laws, labour market regulations and measures on visa and asylum.

Compared with PTAs between trading partners with similar levels of income, those between developed and developing countries contain a higher number of WTO+ provisions on average. WTO-X provisions are encountered most frequently in agreements between developed countries, followed by those between developed and developing countries, and finally those between developing countries.

Overall, services commitments in PTAs have gone well beyond commitments in the General Agreement on Trade in Services (GATS) as well as Doha Round offers in services.

Services obligations typically form part of comprehensive PTAs covering "new generation" issues such as investment, intellectual property, or e-commerce. Out of 85 notifications under Article V of the GATS,³ a little more than a third rely on a GATS-type listing of areas where specific commitments apply (positive list), almost half rely on the more comprehensive approach of indicating where specific commitments do not apply (negative list) and the remainder adopt a mixture of the two approaches.

Despite innovations in their structure, most services PTAs share a broad commonality with the GATS in terms of the basic set of disciplines, although some PTAs have gone beyond GATS with respect to disciplines on domestic regulation or transparency, for example.

The investment chapters in PTAs contain many provisions and guarantees that are important to international production networks.

Since firm-specific assets such as human capital (management or technical experts) and intellectual property (patents, blueprints) give international firms a competitive edge, protecting these assets against expropriation will encourage more production sharing. Allowing freer movement of corporate personnel is another critical requirement. Investor confidence will be further improved through access to a dispute settlement mechanism.

From the sample of investment chapters in PTAs used for this report, it appears that a large proportion of agreements have adopted a negative list and hence a more ambitious approach to investment opening. They typically extend MFN and national treatment to foreign investors, provide guarantees of investor protection and grant private investors the right to dispute settlement. In general, the investment provisions in these PTAs are accommodating, although no attempt has been made to test how much these provisions actually affect flows of foreign direct investment. More recent PTAs appear more open on the investment front than earlier ones.

As tariff barriers have progressively been reduced, non-tariff barriers have acquired increasing weight. Over time, more and more PTAs have included provisions regarding technical barriers to trade (TBTs).

The inclusion of specific provisions in PTAs appears to follow a hub and spoke structure, with a larger partner representing the hub to whose standards the spokes will conform. For example, while the agreements

signed by the EU typically include harmonization provisions, North American agreements that embody TBT provisions tend to prefer mutual recognition. In addition, North American, East Asian and South-Central American TBT provisions in PTAs mainly focus on introducing transparency requirements and developing institutional bodies, while EU and African agreements barely consider these issues.

The risk of a lock-in effect exists in regional provisions on TBTs.

Harmonization to a regional standard may increase the costs for further multilateral liberalization. If adopting a certain standard involves the payment of some form of fixed costs, the risk exists that regional provisions may work as a stumbling block in multilateral cooperation.

Competition policy complements the reduction of trade barriers.

The adoption of competition policy in PTAs is in many ways a natural complement to the reduction of trade, investment and services barriers. In evaluating competition rules in PTAs, one needs to go beyond the competition policy chapter of PTAs to include competition-related provisions that appear in other chapters of trade agreements. Competition disciplines appear in the chapters on investment, services (in telecommunications, maritime transport and financial services), government procurement and intellectual property.

Sector-specific competition provisions may have stronger pro-competitive effects than the articles in the competition policy chapter itself, assuming that the trade agreement has one. Principles in PTAs relating to non-discrimination, procedural fairness and transparency can also have a strong bearing on competition law and policy.

Many elements of competition rules in PTAs are characterized by non-discrimination.

Competition disciplines usually operate through the use of domestic regulations. While it is not impossible for these regulations to be tailored to favour enterprises originating from PTA partners, it may be costly to do so. To the extent that enforcement of competition law reduces the market power of domestic incumbents, the prospects of foreign enterprises that already operate in the market are improved, whether or not they are from a PTA member.

Competition provisions in regional agreements may carry other external benefits, such as economies of scale from the creation of a regional competition authority. Even if no centralized authority is established, benefits can flow from information sharing and cooperation among enforcement authorities. Demonstration effects may also apply when a

competition authority in one PTA member takes action against anti-competitive behaviour.

Production networks and deep PTAs

Empirical analysis confirms the positive association between deep integration and production networks.

Lack of data poses some difficulties in assessing the international fragmentation of production, forcing empirical studies to rely on proxy measures for production networks. This analysis uses trade in parts and components to proxy for global production sharing.

Results show that greater trade in parts and components increases the depth of newly signed agreements among PTA members. PTAs also increase trade in parts and components by 35 per cent among members. In addition, the greater the depth of an agreement, the bigger the increase in trade in parts and components among member countries. The estimation results show that on average, signing deep agreements increases trade in production networks between member countries by almost 8 percentage points.

The case of ASEAN: from regionalization to regionalism.

ASEAN was established in 1967 largely to deal with rising territorial tensions among some of its members (the original signatories were Indonesia, Malaysia, Philippines, Singapore and Thailand) and with possible spillovers from the conflict in Indochina. In the quarter of a century that spanned the creation of the association and the decision formally to establish the ASEAN free trade area (AFTA), there was a shift in economic policy from traditional import substitution to export promotion and openness to foreign direct investment.

This led to a huge increase in total merchandise exports of the five original members. In particular, exports of parts and components became increasingly important, rising from just about 2 per cent of total exports in the year of the association's founding to 17 per cent by the time the free trade agreement was signed. Equally telling was the increased prominence of parts and components trade in intra-regional trade.

While the increased regionalization of trade in parts and components trade in ASEAN would not have been possible without the countries' openness to trade and foreign investment, it may not have been sufficient for production networks to continue to flourish. This may explain AFTA's evolution beyond a free trade area. Services and intellectual property agreements were signed in 1995, an investment agreement and dispute settlement mechanism in 1996, and a framework agreement for mutual recognition arrangements in

1998. Recent studies document how AFTA succeeded in reducing trade costs, not through preferential tariff liberalization but through concerted trade facilitation initiatives, and how this was motivated by participation in international production networks.

Production networks may explain some PTAs in Latin America too: the case of Costa Rica.

As a result of its policies of trade and investment opening, Costa Rica has experienced a significant change in its trade structure, with a substantial rise in the share of manufacturing exports as well as trade in services in total exports. Over the last decade, the country has become more integrated with global production networks in such sectors as electronics, medical devices, automotive, aeronautic/aerospace, and film/broadcasting devices.

The link between production networks and PTAs seems apparent in Costa Rica's agreements with the United States (US-CAFTA-DR agreement) and with China. While overall trade with the United States grew by about 11 per cent annually from 1995, parts and components trade grew at about twice that rate. More than 25 per cent of Costa Rica's total goods exports in 2009 were directly related to production networks in electronics, with China being the main trading partner. Overall, trade in parts and components makes up about half of Costa Rica's current trade with China.

Not all integration experiences conform to this pattern: the case of Africa.

The roots of African integration lay in the effort to correct the geographical fragmentation bequeathed by colonialism. Fragmentation resulted in small markets, land-locked economies, and limited development options. In the 1980s, the Lagos Plan of Action proposed the division of the continent into regional integration areas that would eventually constitute a united African economy.

For the most part, African integration has focused on import tariffs. The inclusion of services and other behind-the-border issues, such as investment, competition policy and government procurement, has proved contentious. A major limitation to African integration progress has been its adherence to a "linear" integration model. This process is marked by the stepwise integration of goods, labour and capital markets, and eventually monetary and fiscal integration.

Deep integration could improve Africa's record on regional cooperation.

Border measures are likely to represent a minor constraint to regional trade in Africa compared with structural economic shortcomings, such as a lack of infrastructure, an institutional framework, skills, and

economic diversification. Enhanced market access without the capacity to produce goods and services to benefit from those opportunities will fail to produce higher economic growth. At a regional level these supply-side constraints could be addressed in part by a regional integration agenda that includes services, investment, competition policy and other behind-the-border issues. In short, a deep integration agenda could address supply-side constraints more effectively than an agenda that focuses almost exclusively on border measures.

See page 122

Section E: The multilateral trading system and PTAs

Systemic effects of preferential tariff liberalization

A number of different mechanisms have been identified through which PTAs could foster or hinder multilateral trade opening.

The prospect of preference erosion can be a force for supporting further multilateral tariff reduction or for resisting it. The presence of political-economy motivations behind tariff reductions is another factor that can either foster or slow down the diminution of preferential tariffs through trade-opening on an MFN basis.

Opposition to further multilateral tariff reductions might also arise in the case of PTAs that are concluded to foster mutual cooperation on non-trade issues, or when PTAs increase the adjustment costs associated with multilateral opening, or when the PTA is trade-creating from the perspective of excluded countries.

Evidence on the systemic effects of regionalism on multilateral tariff reductions is inconclusive.

The literature that considers whether MFN and preferential tariffs complement or compete with each other finds opposite results for developing and developed countries. Most of the contributions to this literature, however, do not distinguish between MFN tariffs that have been negotiated at the multilateral level and unilateral tariff reductions.

Examination of the correlation between PTA formation and multilateralism cannot produce conclusive results because multilateral trade rounds are rare events, where more or less ambitious trade opening scenarios are negotiated. Multilateral trade negotiations are not structured to contemplate either full or zero trade opening. Anecdotal evidence can be found to support the view that PTAs facilitate further multilateral trade opening and the opposite view that they hinder it.

Deep PTA provisions and the multilateral trading system

So far not much research has been conducted on the systemic effects of deep-integration provisions. The existing literature suggests that deep integration is often non-discriminatory.

By their very nature, some deep integration provisions are *de facto* extended to non-members because they are embedded in broader regulatory frameworks that apply to all trading partners. In such cases, multilateral regulation may not be necessary. PTAs may also

directly refer to WTO rules on deep integration measures, automatically supporting the multilateral trading system.

Several mechanisms supporting further trade opening are found in PTAs. These include “non-party” MFN clauses, a tendency to use template approaches that replicate trade rules, and domino effects pointing in the direction of the progressive extension of preferential market access.

Production chains can alter political-economy forces in favour of the adoption of trade measures that comply with the principle of non-discrimination.

Final good producers sourcing their imports through international value chains are likely to support the harmonization of rules of origin across PTAs, for instance through the adoption of rules of cumulation.

The international fragmentation of production may also be a driver of deep integration provisions that are consistent with the principles of the multilateral trading system, such as international standards and multilateral rules on trade remedies.

Some deep provisions in PTAs can, however, contain discriminatory aspects, creating a tension with the multilateral trading system.

The risk of trade diversion may extend beyond tariffs, for example to the area of anti-dumping. Anti-dumping provisions in PTAs may result in members being spared from anti-dumping actions and an increased frequency of anti-dumping actions against non-members. Moreover, many PTAs exclude the imports of PTA partners from global safeguard actions.

Lock-in effects of regulatory harmonization within a given PTA may have negative systemic effects.

Competing PTAs with incompatible regulatory structures and standards may lock in members to a particular regime, undermining the principles of transparency and predictability of regulatory regimes and making movement towards multilateral trade opening costly.

The non-discriminatory nature of deep provisions might in principle create political-economy and third-country resistance to further multilateral opening.

If preferential liberalization is non-discriminatory in nature, it might be opposed by political-economy forces because higher market shares (and profits) in the other member’s market might be more than offset by the loss of domestic profits *vis-à-vis* firms from partners and non-members.

Concerns over overlapping jurisdiction between the WTO dispute settlement system and the dispute settlement mechanisms of PTAs have received considerable attention in the academic literature.

The possibility that dispute settlement procedures in more than one forum can give rise to conflicting judgements has been discussed as a potential source of concern. The issue has been raised only in a handful of WTO disputes. A review of the disputes brought to the WTO reveals that members continue to use the WTO dispute settlement system to resolve disagreements with their PTA partners.

Seeking coherence between PTAs and the WTO

GATT/WTO provisions provide exemptions under certain circumstances from the MFN principle for PTAs.

Surveys of the application of these provisions suggest a relatively tolerant attitude towards PTAs. The provisions themselves are widely regarded as incomplete and lacking in clarity. Recently, attention has focused on improving transparency and the Doha Round negotiations have resulted in the introduction on a provisional basis of a new transparency mechanism.

The fact that the Transparency Mechanism for Regional Trade Agreements is the only result of the Doha negotiations that has been allowed so far to go forward independently of the full results of the Round suggests that WTO members are aware of the need to better understand what regional trade agreements are about.

The quest for coherence between regionalism and multilateralism is nothing new.

Until recently, ensuring coherence was broadly understood as accepting that PTAs and the multilateral system could complement each other while imposing disciplines aimed at minimizing the negative effects that PTAs could have. Approaches to improving coherence focused on the weaknesses of multilateral disciplines and how they could be fixed.

Recent developments in PTA activity may well change the perspective on coherence. Beyond the fact that PTA activity has accelerated noticeably since 1990, what may challenge the current thinking is that the new PTAs, or at least some of them, are qualitatively different from the old ones.

Some of the new PTAs focus more on reducing behind-the-border barriers than on extending preferential tariffs. Given that preferential agreements

involving such measures do not typically induce trade diversion, their systemic implications cannot be analysed using the traditional stumbling blocks/building blocks framework. Moreover, the political economy of new PTAs is different from that of preferential tariffs.

New international trade rules are being developed outside the WTO, with attendant risks of exclusion and additional trade costs arising from overlapping and possibly competing regulatory structures.

Whether and how these new challenges might be addressed is an open question. The principle of subsidiarity, which states that regulatory regimes should be as decentralized as possible, could be used to assess whether measures agreed at the bilateral or regional level need to be incorporated in a multilateral setting.

A number of different approaches have been proposed for improving coherence between PTAs and the multilateral trading system.

There may be a case for maintaining separate regimes for regional and multilateral cooperation where particular types of cooperation are more appropriately managed at the regional rather than the multilateral level. By the same token, there are issues that cannot be addressed adequately at the regional level. In between these two extremes, the coherence question arises.

Proposals can be grouped under four headings: accelerating multilateral trade opening; fixing the deficiencies in the WTO legal framework; adopting a softer approach as a complement to the existing legal framework; multilateralizing regionalism (extending existing preferential arrangements in a non-discriminatory manner to additional parties). These approaches are not mutually exclusive. They all aim at making sure that PTAs contribute to trade cooperation and opening in a non-discriminatory manner.

Lowering MFN tariffs would reduce discrimination and thereby blunt the adverse effects of PTAs. However, reducing all tariffs to zero does not seem to be politically feasible in the present context and it would not eliminate all potentially adverse effects of deeper integration measures. Moreover, the scope for far-reaching action in this domain is limited by the low average level of existing preferential tariffs.

The Doha Round includes a mandate to negotiate with a view to "clarifying and improving disciplines and procedures under the existing WTO provisions applying to regional trade agreements". While negotiations on the procedural issues have resulted in the adoption on a provisional basis of the new transparency mechanism for regional trade

agreements, negotiations on rules have not advanced. These difficulties conform to a long-standing pattern of limited progress.

The rationale for using a “soft law” approach would be to allow WTO members to better understand their respective priorities and interests, with a view eventually to unblocking progress towards legal interpretations of particular provisions that would ensure coherence. However, the soft law approach is not without risk as soft law and hard law could become antagonistic to one another if the underlying conditions for cooperation are absent.

As a result of global production sharing, new forces favourable to the multilateralization of regionalism may have emerged. The extent to which deep integration measures in PTAs have the potential to generate the same sort of costly spaghetti/noodle bowl as preferential tariffs is still a matter for debate, but there may be a role for the WTO to reduce these transaction costs.

See page 164

Conclusions

An over-arching conclusion of this report is that regional and multilateral approaches to trade cooperation need not be incompatible, but neither can they be seen simply as arrangements that serve the same purpose or satisfy the same needs. Support for an increasingly outward-looking and inclusive global trading order has been strong in the period since the end of the Second World War, and this growing trend towards openness has manifested itself through unilateral, bilateral, regional and multilateral approaches.

The spread of deep PTAs and the weightier role of non-tariff commitments have important implications for how to evaluate the role of PTAs and how they interact with the multilateral trading system. The sheer number of PTAs and continuing momentum towards establishing more of them suggest that they are here to stay. They respond to a range of economic and political needs. Governments will need to find a coherent way of fashioning trade policy at the regional and multilateral level. This means ensuring that PTAs and the multilateral system complement each other and that multilateral disciplines minimize any negative effects from PTAs.

See page 196

Endnotes

- 1 These figures have been calculated excluding intra-EU trade.
- 2 If intra-EU trade is included, 30 per cent of world trade is preferential.
- 3 This figure is current as of 1 March 2011, counting notifications for agreements that are currently in force.

I. World trade in 2010

Global trade flows rebounded strongly in 2010 following their collapse in 2009. The rise in the volume of goods exports in 2010 was the largest on record, enabling world trade to return to its pre-crisis level but not its long-term trend. Economic conditions continued to improve in both developed and developing economies, but the recovery of both trade and output proceeded more slowly in developed countries.

Contents

| | |
|--|-----------|
| A. Introduction | 20 |
| B. The state of the world economy and trade in 2010 | 22 |
| Appendix tables and charts | 31 |

A. Introduction

World trade recorded its largest ever annual increase in 2010 as merchandise exports surged 14.5 per cent, buoyed by a 3.6 per cent recovery in global output as measured by gross domestic product (GDP) (see Figure 1). Both trade and output grew faster in developing economies than in developed ones. Exports in volume terms (i.e. in real terms, accounting for changes in prices and exchange rates) were up 13 per cent in developed economies while the increase for developing economies was nearly 17 per cent. The difference between trade of developed and developing economies was even greater on the import side, where developed economies' imports rose by 11 per cent compared with 18 per cent in the rest of the world.

The factors that contributed to the unusually large 12 per cent drop in world trade in 2009 may have also helped boost the size of the rebound in 2010. These include the spread of global supply chains and the product composition of trade compared with output. Global supply chains cause goods to cross national boundaries several times during the production process, which raises measured world trade flows compared with earlier decades. The quantification of this effect would require data on trade in value added that are not currently available. The goods that were most affected by the downturn (consumer durables, industrial machinery, etc.) have a larger share in world trade than in world GDP, which increased the magnitude of the trade slump relative to GDP in 2009, and which had a similar positive effect during the recovery of 2010.

Higher prices for primary commodities and the extraordinary growth of trade in developing Asia

helped boost the combined share of developing economies and the Commonwealth of Independent States (CIS) in world exports to 45 per cent in 2010, its highest ever.

China in particular made an outsized contribution to the recovery of world trade in 2010, as the country's exports increased by a massive 28 per cent in volume terms and imports swelled by more than 22 per cent.

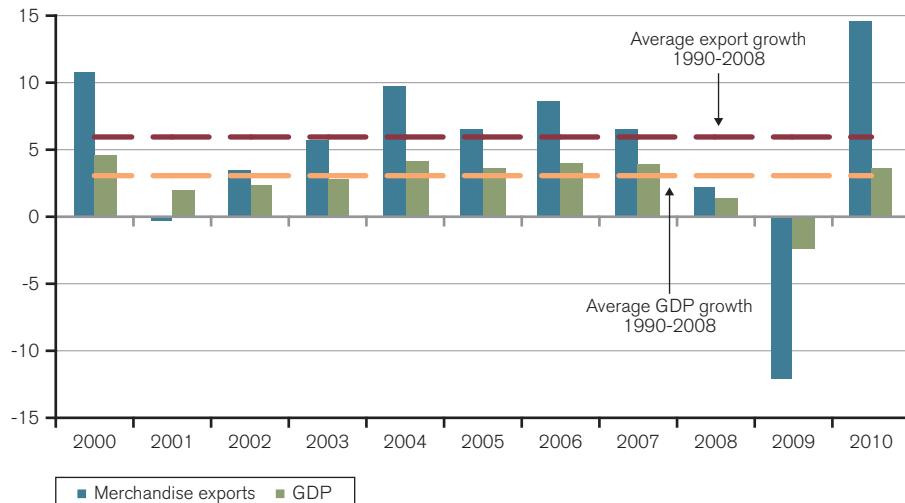
1. Putting the trade recovery into perspective

Although the growth of world exports in 2010 was the highest on record in a data series going back to 1950, it might have been even higher if trade had quickly reverted to its pre-crisis trend. This did not happen. The rebound was strong enough for world exports to recover their peak level of 2008, but it was not strong enough to bring about a return to the previous growth path (see Figure 2).

The 3.6 per cent growth rate of world GDP for 2010 is also less robust than it might appear at first glance. It was above its average rate of 3.1 per cent between 1990 and 2008, but it was far from a record. In fact, world GDP growth equalled or exceeded 4 per cent several times in recent years, including 1997, 2000, 2004 and 2006. Considering the depressed level of world output in 2009, growth in this range or higher would not have been surprising in 2010.

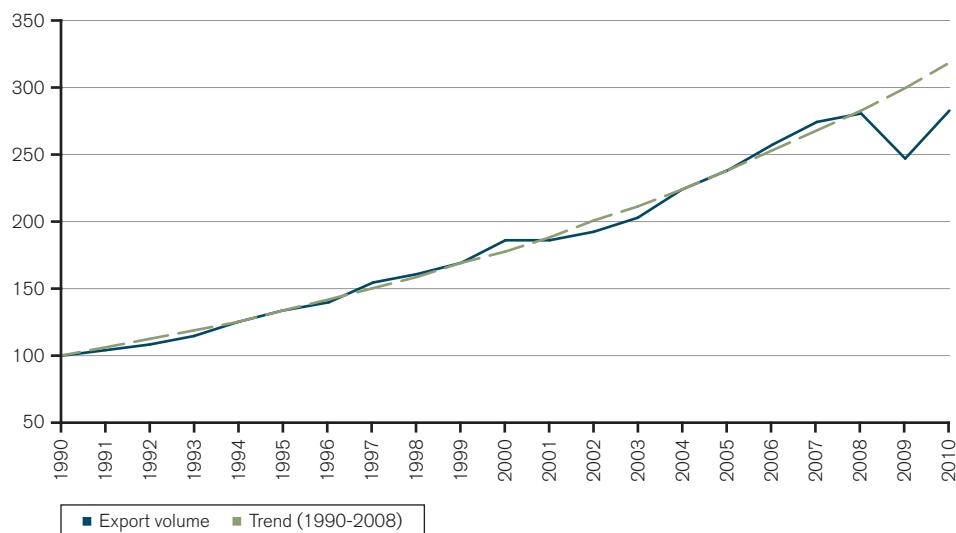
A number of factors combined to make trade and output grow more slowly than they might otherwise have done. First, curtailment of fiscal stimulus

Figure 1: Growth in volume of world merchandise trade and GDP, 2000-10 (Annual percentage change)



Source: WTO Secretariat.

Figure 2: Volume of world merchandise trade, 1990-2010 (Indices, 1990 = 100)



Source: WTO Secretariat.

measures in many countries dampeden economic activity in the second half of the year. European governments in particular moved towards fiscal consolidation in an attempt to reduce their budget deficits through a combination of spending cuts and revenue measures, with negative consequences for short-term growth.

Secondly, although oil prices stabilized at around US\$ 78/barrel in 2010, they were still high by recent historical standards (e.g. oil prices averaged US\$ 31/barrel between 2000 and 2005). Prices were below the US\$ 96/barrel average seen in 2008, but they were also up 30 per cent from 2009, raising energy costs for households and businesses.

Finally, persistent unemployment prevented domestic consumption from rebounding more strongly in developed countries and limited income growth and import demand. The Organisation for Economic Co-operation and Development (OECD) average unemployment rate was 8.6 per cent in 2010 (up from 6.1 per cent in 2008), and unemployment remained at or near 9 per cent in the United States throughout the year.

The record expansion of trade and the revival of economic activity in 2010 were certainly welcome developments, but their importance should not be overstated. Despite the rebound, the negative impact of the financial crisis and global recession are likely to persist for some time.

B. The state of the world economy and trade in 2010

1. Economic growth

World GDP at market exchange rates expanded 3.6 per cent in 2010, one year after an unprecedented contraction of 2.4 per cent that accompanied the financial crisis in 2009. Output of developed economies rose 2.6 per cent in 2010 after falling 3.7 per cent in 2009, while the rest of the world (including developing economies and the CIS) grew 7.0 per cent, up from 2.1 per cent in 2009 (see Table 1).

Growth was stronger in the first half of the year, but weakened in the second half as the sovereign debt crisis affecting smaller euro area economies restrained economic growth, especially in Europe.

Although developing economies collectively avoided an outright decline in 2009, many individual economies saw their GDP contract, for example South Africa, Chile, Singapore and Chinese Taipei. However, all of these economies returned to positive growth in 2010, and the only large developing country that remained mired in recession was the Bolivarian Republic of Venezuela.

GDP grew faster in developing Asia (8.8 per cent) than in other developing regions last year, with China and India

registering strong increases of 10.3 per cent and 9.7 per cent, respectively. South and Central America also saw vigorous growth of 5.8 per cent, driven by Brazil's strong 7.5 per cent upturn. However, Africa had the fastest average rate of GDP growth of any region over the last five years (4.7 per cent between 2005 and 2010).

Developed economies grew more slowly than developing economies, but some performed better than others. Concerns about the possibility of sovereign defaults in Greece, Ireland, Portugal and Spain brought renewed financial market instability and fiscal austerity in the second half of 2010, which held Europe's growth rate down to 1.9 per cent, the slowest of any region. The economies of Greece, Ireland and Spain all contracted in 2010, as did Iceland's, which was hit by a banking crisis in 2008.

The major exception to the below average GDP growth in Europe was Germany, whose 3.6 per cent growth rate outpaced all euro area economies and all European Union members except for Sweden and Poland. According to OECD National Accounts Statistics, Germany's net exports of goods contributed 1.4 per cent to its 3.6 per cent GDP growth, or 40 per cent of the total increase. By comparison, domestic

Table 1: GDP and merchandise trade by region, 2007-10 (Annual percentage change)

| | GDP | | | Exports | | | Imports | | |
|---|------|------|------|---------|-------|------|---------|-------|------|
| | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 | 2008 | 2009 | 2010 |
| World | 1.4 | -2.4 | 3.6 | 2.2 | -12.0 | 14.5 | 2.2 | -12.8 | 13.5 |
| North America | 0.1 | -2.8 | 3.0 | 2.1 | -14.8 | 15.0 | -2.4 | -16.7 | 15.7 |
| United States | 0.0 | -2.6 | 2.8 | 5.8 | -14.0 | 15.4 | -3.7 | -16.4 | 14.8 |
| South and Central America^a | 5.1 | -0.2 | 5.8 | 0.8 | -7.9 | 6.2 | 13.2 | -16.3 | 22.7 |
| Europe | 0.5 | -4.0 | 1.9 | 0.2 | -14.1 | 10.8 | -0.6 | -14.2 | 9.4 |
| European Union (27) | 0.5 | -4.2 | 1.8 | 0.0 | -14.5 | 11.4 | -0.9 | -14.2 | 9.2 |
| Commonwealth of Independent States (CIS) | 5.5 | -7.1 | 4.3 | 2.0 | -5.2 | 10.1 | 16.4 | -25.6 | 20.6 |
| Africa | 4.8 | 2.1 | 4.7 | 1.2 | -4.2 | 6.5 | 14.6 | -5.0 | 7.0 |
| Middle East | 5.3 | 0.8 | 3.8 | 3.5 | -4.3 | 9.5 | 14.2 | -7.8 | 7.5 |
| Asia | 2.8 | -0.2 | 6.3 | 5.5 | -11.2 | 23.1 | 4.7 | -7.5 | 17.6 |
| China | 9.6 | 9.1 | 10.3 | 8.5 | -10.5 | 28.4 | 3.8 | 2.9 | 22.1 |
| Japan | -1.2 | -6.3 | 3.9 | 2.2 | -24.8 | 27.5 | -1.0 | -12.2 | 10.0 |
| India | 6.4 | 5.7 | 9.7 | 14.4 | -6.8 | 19.9 | 17.3 | -1.0 | 11.2 |
| Newly industrialized economies (4) ^b | 1.9 | -0.8 | 7.7 | 4.9 | -5.7 | 21.3 | 3.5 | -11.4 | 18.0 |
| Memo: Developed economies | 0.2 | -3.7 | 2.6 | 0.8 | -15.1 | 12.9 | -1.2 | -14.4 | 10.7 |
| Memo: Developing and CIS | 5.7 | 2.1 | 7.0 | 4.2 | -7.8 | 16.7 | 8.5 | -10.2 | 17.9 |

^aIncludes the Caribbean.

^bHong Kong, China; Republic of Korea; Singapore; and Chinese Taipei.

Source: WTO Secretariat.

final consumption expenditure only contributed 0.7 per cent to GDP, or 19 per cent of the total increase.

GDP growth in the United States was more subdued, at 2.8 per cent in 2010, while Japan's was up 3.9 per cent. However, the Japanese recovery should be seen in the context of the 6.3 per cent drop in output that the country experienced in 2009, the most severe decline among leading industrialized economies. Japan also ceded the position of the world's second-largest economy to China, measured in dollar terms. In terms of income per head, however, it may be noted that Japan's per capita GDP was US\$ 44,800 in 2010, compared with a figure of US\$ 4,800 for China.

2. Merchandise trade in volume (i.e. real) terms

World merchandise exports in volume terms (i.e. excluding the influence of prices and exchange rates) rose 14.5 per cent in 2010, while world imports grew 13.5 per cent. In principle, world exports and imports should increase at roughly the same rate, with some discrepancies due to differences in data recording across countries. World trade as measured by exports grew four times as fast as global GDP in 2010, whereas trade normally grows about twice as fast as GDP (see Table 1).

The uneven recovery in output produced an equally uneven recovery in trade. While world merchandise exports rose 14.5 per cent in volume terms, those of developed economies increased by 12.9 per cent, and combined shipments from developing economies and the CIS jumped 16.7 per cent. Imports of developed economies grew more slowly than exports last year (10.7 per cent compared with 12.9 per cent) while developing economies plus the CIS saw the opposite happen (17.9 per cent growth in imports compared with 16.7 per cent for exports).

Only in Asia and North America did exports grow faster than the world average (15.0 per cent and 23.1 per cent, respectively), whereas slower than average growth was recorded in Europe (10.8 per cent), the CIS (10.1 per cent), the Middle East (9.5 per cent), Africa (6.4 per cent) and South and Central America (6.2 per cent).

On the import side, faster than average growth was observed in South and Central America (22.7 per cent), the CIS (20.6 per cent), Asia (17.6 per cent) and North America (15.7 per cent) while slower growth was reported in Europe (9.4 per cent), the Middle East (7.5 per cent) and Africa (7.1 per cent).

Asia's rapid real export growth in 2010 was led by China and Japan, whose shipments to the rest of the world each rose roughly 28 per cent. China's trade performance is more impressive when one considers that the decline in the country's exports in 2009 was less than half that of Japan (11 per cent compared with 25 per cent). Meanwhile, the United States and the European Union saw their exports growing more slowly at 15.4 per cent and 11.4 per cent, respectively. Imports were up 22.1 per cent in real terms in China, 14.8 per cent in the United States, 10.0 per cent in Japan, and 9.2 per cent in the European Union.

Regions that export significant quantities of natural resources (Africa, the CIS, the Middle East and South America) all experienced relatively low export volume growth in 2010, but very strong increases in the dollar value of their exports. For example, Africa's exports were up 6 per cent in volume terms, and 28 per cent in dollar terms (see Appendix Table 1).

An explanation for this can be seen in rising primary commodity prices, which resumed their upward trajectory in 2010, after plunging in 2009. Table 2 illustrates commodity price developments in the last few years. Despite recent volatility, the overall trend towards higher prices is clear. Prices fell sharply in 2009 as the global recession took hold, but then shot up again when growth resumed in 2010. The increases were driven to a large extent by rising import demand on the part of fast-growing developing economies such as China and India. Between 2000 and 2010, prices for metals rose faster than any other primary commodity group, with average annual increases of 12 per cent, followed closely by energy with 11 per cent growth per annum. Only agricultural raw material prices stagnated, with increases of just 2 per cent per year on average over the last ten years.

Table 2: Export prices of selected primary products, 2000-10 (Annual percentage change)

| | 2008 | 2009 | 2010 | 2000-10 | 2005-10 |
|----------------------------|------|------|------|---------|---------|
| All commodities | 28 | -30 | 26 | 10 | 9 |
| Metals | -8 | -20 | 48 | 13 | 15 |
| Beverages ^a | 23 | 2 | 14 | 9 | 12 |
| Food | 23 | -15 | 12 | 6 | 8 |
| Agricultural raw materials | -1 | -17 | 33 | 2 | 5 |
| Energy | 40 | -37 | 26 | 11 | 8 |

^aComprising coffee, cocoa beans and tea.

Source: IMF International Financial Statistics.

In contrast to primary products, prices of manufactured goods rose very little in 2010. Export and import price indices may differ substantially across countries, but as an example, US non-fuel import prices in 2010 were nearly unchanged from 2009 (up 2.7 per cent in 2010 after falling 3 per cent in 2009), and prices of imports from China (predominated by manufactures) declined by 0.1 per cent. This means that nominal trade figures for natural resource exporters would be strongly deflated when calculating volume estimates, whereas real trade growth for countries that mostly export manufactured goods would be relatively close to their nominal growth rates.

Higher commodity prices lifted foreign exchange earnings in regions that export a lot of primary products and helped boost imports, especially in South and Central America, where the volume of imports jumped 22.7 per cent in 2010, and in the CIS, where imports were up 20.6 per cent. Africa's import volume growth was actually the lowest of any region last year, at 7.0 per cent, despite the continent's large share of fuels and mining products in its total exports (64 per cent in 2009 and 71 per cent in 2008, when commodity prices were higher).

This relatively small increase may be partly explained by the fact that African imports did not fall very far in 2009 (Africa had the smallest decline of any region at -5.0 per cent), leaving less pent-up demand for imports in the following year. Also, not all African countries are important exporters of fuels and mining products, which saw the biggest price rises. Net importers of these products include Ethiopia, Kenya, Morocco and Tanzania, among others. These countries did not experience the same windfall in export earnings enjoyed by natural resource exporters.

Although South Africa is a net exporter of mining products, it is a net importer of fuels, which represented just over 21 per cent of the country's total imports of goods in 2009 (the share is the same for Kenya and Morocco, while Tanzania's share is 23 per cent).

3. Merchandise and commercial services trade in value (i.e. dollar) terms

As a result of rising commodity prices and a depreciating US currency (down 3.5 per cent on average against major currencies in 2010 according to US Federal Reserve nominal effective exchange rate statistics), growth in the dollar value of world trade in 2010 was greater than the increase in volume terms. World merchandise exports were up 22 per cent, rising from US\$ 12.5 trillion to US\$ 15.2 trillion in a single year, while world exports of commercial services rose 8 per cent, from US\$ 3.4 trillion to US\$ 3.7 trillion (see Table 3).¹

The faster growth of merchandise trade compared with services can be partly explained by the smaller decline in services in 2009 (just 12 per cent compared with 22 per cent for merchandise), which implies less need for faster-than-average growth to catch up to earlier trends. The average annual growth in the value of merchandise trade and commercial services trade between 2005 and 2010 was the same, at 8 per cent.

World exports of goods and commercial services in current US dollars rebounded more quickly than world GDP in 2010, and as a result the ratio of world trade to GDP rose sharply after falling even more sharply in 2009 (see Figure 3). At 124 in 2010, it remained below its 2008 peak of 132, but the 2010 value was still high by historical standards.

Merchandise trade

Nominal merchandise exports of developed economies jumped 16 per cent in 2010 to US\$ 8.2 trillion, up from US\$ 7.0 trillion in 2009. However, because this rate of increase was slower than the world average of 22 per cent, the share of developed countries in world merchandise exports fell to 55 per cent, its lowest level ever.

This falling share cannot be explained mainly as a result of higher prices for primary products exported predominantly by developing countries. This is because the latter prices were even higher in 2008 but the

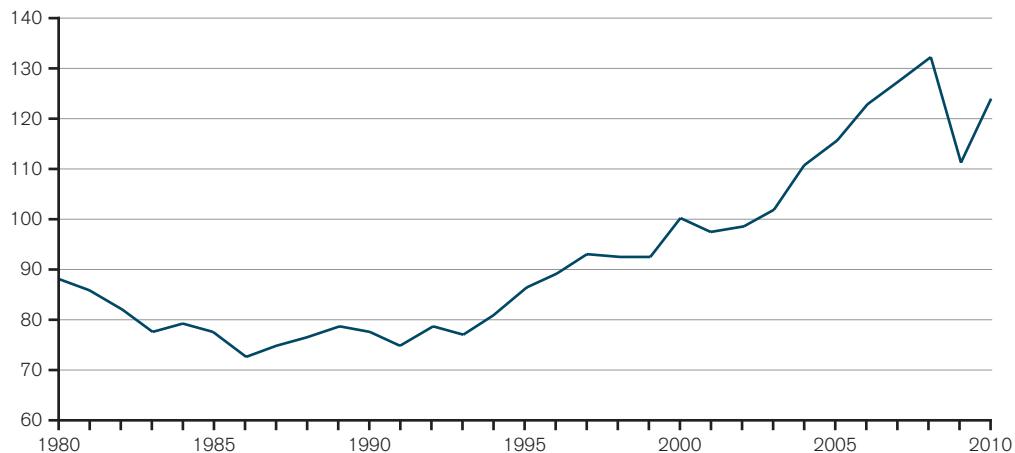
Table 3: World exports of merchandise and commercial services, 2005-10
(Billion dollars and annual percentage change)

| | Value | | Annual percentage change | | |
|---------------------------|--------|------|--------------------------|------|---------|
| | 2010 | 2008 | 2009 | 2010 | 2005-10 |
| Merchandise ^a | 15,238 | 15 | -22 | 22 | 8 |
| Commercial services | 3,665 | 13 | -12 | 8 | 8 |
| Transport | 783 | 16 | -23 | 14 | 7 |
| Travel | 936 | 10 | -9 | 8 | 6 |
| Other commercial services | 1,945 | 13 | -8 | 6 | 9 |

Source: WTO Secretariat.

^aIncludes significant re-exports or imports for re-export.

Figure 3: Ratio of world exports of goods and commercial services to GDP, 1980–2010
(Index, 2000 = 100)



Source: IMF for world GDP, WTO Secretariat for world trade in goods and commercial services.

share of developed countries in world trade at that time was also higher, at nearly 58 per cent.

The story is similar on the import side, where developed economy imports increased 16 per cent to US\$ 8.9 trillion, but their share in world imports dropped to 59 per cent from 61 per cent in 2009 and 63 per cent in 2008.

All WTO regions experienced double-digit increases in the dollar value of both exports and imports in 2010, thanks in part to rising prices for fuels and other commodities (see Appendix Table 1).

The leading merchandise exporters in 2010 were China (US\$ 1.58 trillion, or 10 per cent of world exports), the United States (US\$ 1.28 trillion, 8 per cent of world), Germany (US\$ 1.27 trillion, 8 per cent of world), Japan (US\$ 770 billion, 5 per cent of world) and the Netherlands (US\$ 572 billion, 3.8 per cent of world). The United States overtook Germany to become the second-largest exporter, one year after Germany ceded the top position to China (see Appendix Table 3).

The top merchandise importers were the United States (US\$ 1.97 trillion, 13 per cent of world imports), China (US\$ 1.40 trillion, 9 per cent of world), Germany (US\$ 1.07 trillion, 7 per cent of world), Japan (US\$ 693 billion, 4.5 per cent of world) and France (US\$ 606 billion, 4 per cent of world).

If we ignore trade between the 27 European Union members and treat the EU as a single entity, the leading exporters were the European Union (US\$ 1.79 trillion, or 15 per cent of the total), China (13 per cent), the United States (11 per cent), Japan (6.5 per cent) and the Republic of Korea (4 per cent).

The top importers excluding trade within the EU were the European Union (US\$ 1.98 trillion or 16.5 per cent

of world imports), the United States (16 per cent), China (12 per cent), Japan (6 per cent) and the Republic of Korea (US\$ 425 billion, 3.5 per cent). Hong Kong's total imports were actually larger than Korea's (US\$ 442 billion), but retained imports were smaller (US\$ 116 billion) (see Appendix Table 4).

Commercial services

World exports of commercial services increased 8 per cent to US\$ 3.67 trillion in 2010 after dropping 12 per cent in 2009 (see Table 3).

Transportation was the fastest growing component of commercial services exports in 2010, with an increase of 14 per cent to US\$ 782.8 billion. The faster growth of transport services is not surprising since they are closely linked to trade in goods, which saw record growth last year. Travel grew in line with commercial services overall, whereas other commercial services (including financial services) advanced more slowly.

North America's exports were worth US\$ 599 billion in 2010, while the value of the region's imports came to US\$ 471 billion. Exports and imports were both up 9 per cent year-on-year, but Mexico lagged on the export side with 5 per cent growth (see Appendix Table 2).

South and Central America's exports rose 11 per cent to US\$ 111 billion, but imports grew more than twice as fast (23 per cent) to reach US\$ 135 billion. Both exports and imports of Brazil grew faster than the regional average (15 per cent and 35 per cent, respectively), with particularly high growth rates observed for imports of transport services (42 per cent) and travel (51 per cent), partly due to the strength of the real.

Europe's exports and imports were both larger than any other region's in 2010 (US\$ 1.72 trillion and

US\$ 1.5 trillion, respectively) but they were also the least dynamic, with growth of just 2 per cent on the export side and 1 per cent on the import side. The reason for Europe's poor performance can be found in the weakness of travel services, which declined by 3 per cent on the export side and 2 per cent on the import side.

In 2010, exports of CIS countries increased by 10 per cent to US\$ 78 billion. The region's imports also rose 14 per cent to US\$ 105 billion. Russian export growth of 6 per cent was driven by transport services.

Meanwhile, Africa exported US\$ 86 billion worth of commercial services, 11 per cent more than in 2009. The continent's imports advanced 12 per cent to US\$ 141 billion. In South Africa, travel receipts increased by 24 per cent due to the large number of foreign visitors attending the FIFA World Cup.

The Middle East exported US\$ 103 billion worth of commercial services and imported US\$ 185 billion in 2010. Exports and imports were both up 9 per cent year-on-year.

Finally, Asia exported US\$ 963 billion worth of services in 2010 and imported a similar amount, US\$ 961 billion. Exports and imports were up 21 per cent and 20 per cent, respectively. Transport was the most dynamic sector, with a growth rate of 26 per cent on both the export and import sides. Travel exports also rose rapidly at 25 per cent. Also, other commercial services increased by 17 per cent, which now represents half of the region's exports.

The United States exported US\$ 515 billion in commercial services in 2010, or 14 per cent of the global total, making it the world's largest exporter. The other countries in the top five were Germany (US\$ 230 billion, or 6 per cent of world exports), the United Kingdom (US\$ 227 billion, also 6 per cent of world), China (US\$ 170 billion, 5 per cent of world) and France (US\$ 140 billion, 4 per cent of world) (see Appendix Table 5).

The United States was also the leading importer, with purchases of US\$ 358 billion from foreign providers, equal to 10 per cent of world imports. It was followed by Germany (US\$ 256 billion, 7 per cent of world), China (US\$ 192, 5.5 per cent of world), the United Kingdom (US\$ 156 billion, 4.5 per cent of world) and Japan (US\$ 155 billion, 4.5 per cent of world).

China replaced France as the fourth-largest exporter of commercial services, while Germany overtook the United Kingdom in second place. China also moved up the rankings on the import side, taking over the third position from the United Kingdom.

When trade within the EU is excluded, the European Union becomes the leading global exporter, with services exports to the rest of the world totalling

US\$ 684 billion in 2010, or 25 per cent of global trade. It is followed by the United States (with 18 per cent of the reduced world total), China (with 6 per cent), Japan (with 5 per cent) and Singapore (with 4 per cent).

The European Union is also the top importer when trade within the EU is left out. Its imports from non-EU countries in 2010 came to US\$ 598 billion, or 22 per cent of world trade. The remaining countries in the top five were the United States (13 per cent of world), China (7 per cent), Japan (6 per cent) and India (4 per cent).

4. Sectoral developments

Prices for traded manufactured goods tended to be more stable than those of primary products, both before and after the economic crisis, so movements in nominal trade flows reflect changes in quantities reasonably well. This is important because the product composition of trade was a major determinant of the extent to which the exports and imports of various countries declined in 2009, and the same was true during the recovery of 2010.

Figure 4 shows indices of estimated quarterly world trade in manufactured goods broken down by product. By the end of 2010, exports of manufactures had only just returned to a level close to their pre-crisis maximum, while particular categories such as automotive products and iron and steel were still well below their mid-2008 peaks.

World exports of office and telecom equipment declined less than other products during the crisis, but have grown faster since then. Exports of office and telecom equipment rose nearly 73 per cent between Q1-2009 and Q4-2010, and automotive products increased by a similar amount (71 per cent).

However, automotive products declined much more during the crisis (51 per cent compared with 30 per cent for office and telecom), so that by the end of 2010 they were only 5 per cent above their level at the beginning of 2007, whereas world trade in office and telecom equipment was up 37 per cent. Manufactures as a whole rose 46 per cent between Q1-2009 and Q4-2010.

The share of office and telecom equipment in exports of developing economies is greater than its share in developed economies' exports (15 per cent in 2008 for the former, 7 per cent for the latter) while automotive products are responsible for a larger share of developed economy exports (11 per cent, compared with 4 per cent for developing economies), so it is perhaps not surprising that developed country exports have lagged behind those of developing countries since the crisis.

World trade in textiles and clothing did not fluctuate as much as other products in 2009 (down 14 per cent)

and 2010 (up 11 per cent) but the category “other machinery” matched the trend for total manufactures almost perfectly. This is partly due to its relatively large share in manufactures trade (about 13 per cent in 2009) but also to the fact that it is mostly made up of investment goods (industrial machinery, power-generating equipment, etc.), which are highly sensitive to economic conditions and closely linked to production. About 4 per cent of trade in manufactures is composed of consumer durables other than automobiles (mostly household appliances).

Due to insufficient data, we cannot say at this stage whether world trade became more or less regional in 2010, but we can get an indication by looking at the automotive sector, where quarterly trade data are available by partner for all of the main exporting countries and regions.

Table 4 shows preliminary estimates of automotive product exports of North America, Europe and Asia from 2008 to 2010, including intra-regional and extra-regional trade flows. In Asia and North America,

Figure 4: World exports of manufactured goods by product, 2007-10 (Indices, 2007Q1 = 100)

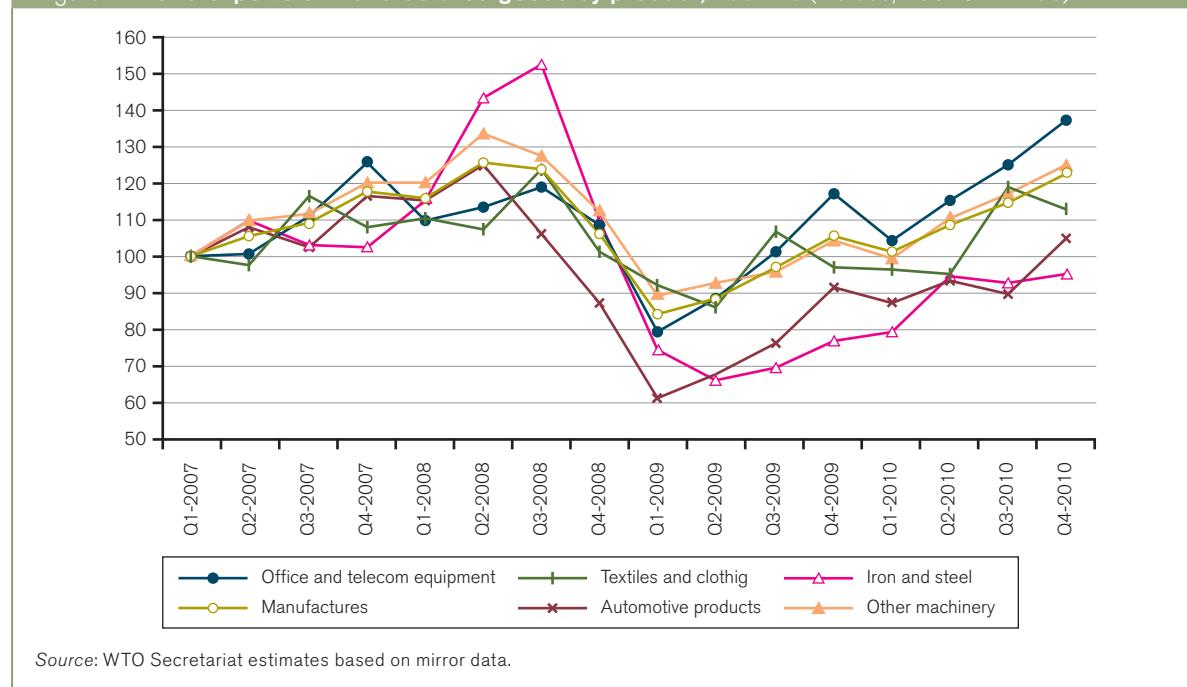


Table 4: Exports of automotive products by major exporting regions, 2008-10
(Billion dollars and percentage)

| | Value of exports to world | Value of intra-regional exports | Value of extra-regional exports | Share of intra-regional trade in exports to world | Annual % change in exports to world | | Annual % change in intra-regional exports | Annual % change in extra-regional exports |
|----------------------|---------------------------|---------------------------------|---------------------------------|---|-------------------------------------|------|---|---|
| | | | | | 2008 | 2009 | | |
| North America | | | | | | | | |
| Automotive products | 205.3 | 156.6 | 48.7 | 72.2 75.6 76.3 | -32 | 43 | -28 | 45 |
| Vehicles | 132.4 | 94.2 | 38.1 | 66.4 70.7 71.2 | -33 | 45 | -29 | 46 |
| Parts and components | 73.0 | 62.4 | 10.6 | 83.1 84.4 85.5 | -29 | 41 | -28 | 43 |
| Europe | | | | | | | | |
| Automotive products | 538.8 | 385.9 | 153.0 | 75.2 77.1 71.6 | -31 | 18 | -29 | 10 |
| Vehicles | 351.1 | 247.3 | 103.7 | 73.5 76.5 70.5 | -32 | 16 | -29 | 7 |
| Parts and components | 187.8 | 138.5 | 49.2 | 78.6 78.3 73.8 | -29 | 22 | -29 | 15 |
| Asia | | | | | | | | |
| Automotive products | 276.5 | 89.8 | 186.7 | 24.5 31.8 32.5 | -34 | 45 | -14 | 48 |
| Vehicles | 170.7 | 43.9 | 126.8 | 17.6 24.0 25.7 | -41 | 45 | -19 | 55 |
| Parts and components | 105.8 | 45.9 | 59.9 | 39.5 44.2 43.4 | -19 | 44 | -10 | 42 |

Source: WTO Secretariat estimates based on monthly data for available reporters in Global Trade Information Services' Global Trade Atlas database.

exports of automotive products became increasingly intra-regional between 2008 and 2010, with North America's intra-regional trade share rising from 72 per cent to 76 per cent and Asia's increasing from 24 per cent to 32 per cent.

On the other hand, Europe's exports became more intra-regional in 2009 but sharply more extra-regional in 2010. Reasons for this include weak demand within Europe on account of the continent's relatively slow rate of GDP growth, and booming exports from Germany to China.

The value of Germany's total exports of automotive products was up 25 per cent from US\$ 159.7 billion in 2009 to US\$ 199.6 billion in 2010. However, exports to China roughly doubled during the same period, from US\$ 8.7 billion to US\$ 17.6 billion. Also, while Germany's exports to the rest of the world were down 34 per cent in 2009, exports to China were up 12 per cent. As a result, China has become the third-largest market for German cars after the United States and the United Kingdom.

Exports of vehicles and auto parts developed along similar lines in North America and also in Europe, but they diverged slightly in Asia in 2010, as the region's exports of vehicles became more intra-regional, while trade in parts and components became more extra-regional.

5. Trade balances and exchange rates

Trade imbalances of leading economies widened in 2010, as exports and imports bounced back from their depressed levels of 2009. However, for most countries the gap between exports and imports was smaller after the crisis than before (see Appendix Figure 1).

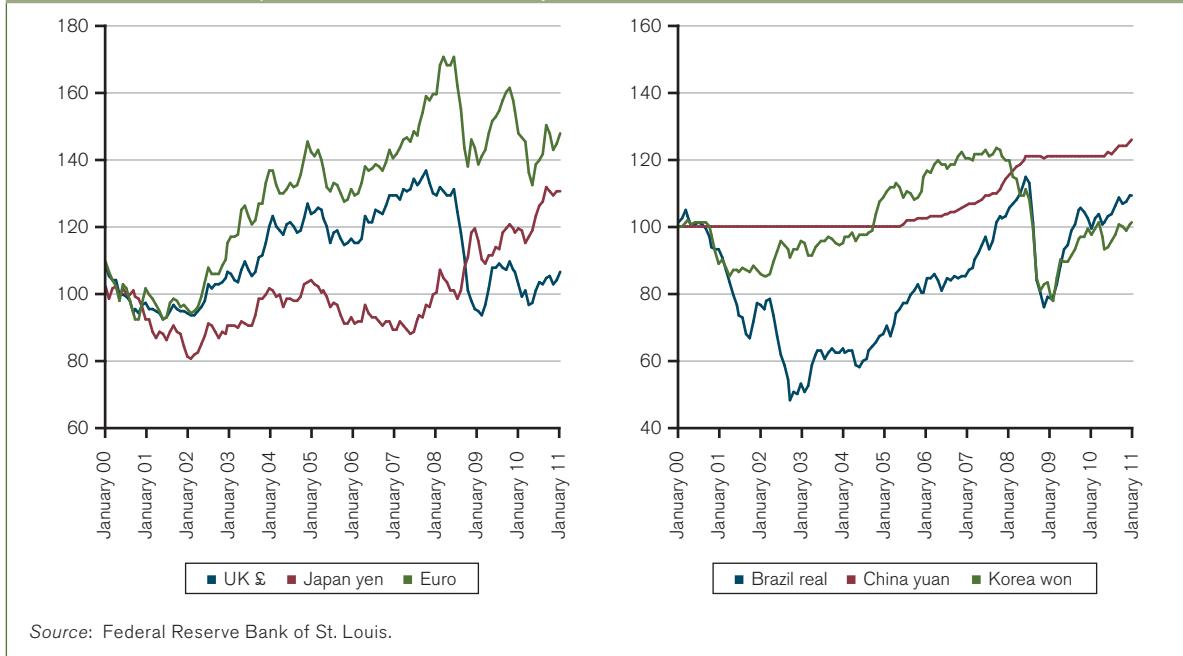
The monthly trade deficit of the United States widened from a low of US\$ 32 billion in February 2009 to around US\$ 62 billion per month on average in the second half of 2010, and the deficit for the year increased 26 per cent compared with 2009. However, the 2010 deficit of roughly US\$ 690 billion was 22 per cent less than the corresponding deficit of US\$ 882 billion in 2008.

China's merchandise trade surplus for 2010 totalled US\$ 183 billion, roughly 7 per cent less than the US\$ 196 billion it recorded in 2009, and 39 per cent less than the nearly US\$ 300 billion surplus of 2008. The European Union had a trade deficit with the rest of the world of US\$ 190 billion in 2010, which was up 26 per cent from 2009 but down 49 per cent from the US\$ 375 billion it recorded in 2008.

Japan was an exception to the trend towards smaller trade deficits/surpluses after the financial crisis. In 2008 the country recorded a US\$ 19 billion surplus of exports over imports, but this nearly quadrupled to US\$ 77 billion in 2010.

In terms of exchange rates, by February 2011 the yuan had appreciated against the US dollar in nominal terms by around 3.8 per cent from its previous level. However, real appreciation against the dollar is happening at a faster rate due to higher inflation in China. China's real (i.e. inflation adjusted) effective exchange rate against a broad basket of currencies rose 1.3 per cent in 2010 according to indices supplied by J.P. Morgan. By comparison, the US dollar registered a 5 per cent real effective depreciation against trading partners' currencies during the same period.

Figure 5: Nominal dollar exchange rates, January 2000 - February 2011
(Indices of US dollars per unit of national currency, 2000 = 100)



Source: Federal Reserve Bank of St. Louis.

The yen appreciated by nearly 7 per cent in nominal terms against the dollar in 2010, but its real effective rate was only up by less than 1 per cent on account of a falling price level (i.e. deflation) in Japan. This suggests that the higher value of the yen did not hurt the competitiveness of Japanese goods on world markets.

On the other hand, the strong nominal appreciations of the Brazilian real (12 per cent) and the Korean won (10 per cent) against the dollar were matched by large real effective rises (15 per cent and 9 per cent, respectively) that would have raised the cost of goods from these countries relative to other countries' exports (see Figure 5).

Endnotes

- 1 World exports of goods measured on a balance of payments basis like services were also up 22 per cent in 2010.

Appendix tables and charts

Appendix Table 1: World merchandise trade by region and selected economies, 2010
(Billion dollars and percentage)

| | Value | Exports | | | | Value | Imports | | | | |
|---|--------|--------------------------|------|------|------|--------|--------------------------|------|------|------|--|
| | | Annual percentage change | | | | | Annual percentage change | | | | |
| | | 2005-10 | 2008 | 2009 | 2010 | | 2005-10 | 2008 | 2009 | 2010 | |
| World | 14,855 | 8 | 15 | -23 | 22 | 15,050 | 7 | 16 | -23 | 21 | |
| North America | 1,964 | 6 | 11 | -21 | 23 | 2,681 | 3 | 8 | -25 | 23 | |
| United States | 1,278 | 7 | 12 | -18 | 21 | 1,968 | 3 | 7 | -26 | 23 | |
| Canada ^a | 387 | 1 | 9 | -31 | 22 | 402 | 4 | 7 | -21 | 22 | |
| Mexico | 298 | 7 | 7 | -21 | 30 | 311 | 6 | 10 | -24 | 29 | |
| South and Central America^b | 575 | 10 | 21 | -24 | 25 | 576 | 14 | 30 | -26 | 30 | |
| Brazil | 202 | 11 | 23 | -23 | 32 | 191 | 20 | 44 | -27 | 43 | |
| Other South and Central America ^b | 373 | 9 | 20 | -25 | 22 | 385 | 12 | 25 | -25 | 24 | |
| Europe | 5,626 | 5 | 12 | -22 | 12 | 5,841 | 5 | 13 | -25 | 13 | |
| European Union (27) | 5,147 | 5 | 11 | -22 | 12 | 5,337 | 5 | 12 | -25 | 12 | |
| Germany | 1,269 | 5 | 9 | -23 | 13 | 1,067 | 7 | 12 | -22 | 15 | |
| France | 521 | 2 | 10 | -21 | 7 | 606 | 4 | 13 | -22 | 8 | |
| Netherlands | 572 | 7 | 16 | -22 | 15 | 517 | 7 | 18 | -24 | 17 | |
| United Kingdom | 405 | 1 | 5 | -23 | 15 | 558 | 2 | 2 | -24 | 15 | |
| Italy | 448 | 4 | 9 | -25 | 10 | 484 | 5 | 10 | -26 | 17 | |
| Commonwealth of Independent States (CIS) | 588 | 11 | 35 | -36 | 30 | 414 | 14 | 32 | -33 | 24 | |
| Russian Federation ^a | 400 | 10 | 33 | -36 | 32 | 248 | 15 | 31 | -34 | 30 | |
| Africa | 500 | 10 | 29 | -30 | 28 | 463 | 13 | 28 | -15 | 14 | |
| South Africa | 82 | 10 | 16 | -24 | 33 | 94 | 9 | 14 | -27 | 29 | |
| Africa less South Africa | 418 | 10 | 31 | -31 | 28 | 369 | 14 | 33 | -12 | 11 | |
| Oil exporters ^c | 277 | 9 | 34 | -38 | 31 | 138 | 14 | 39 | -9 | 4 | |
| Non oil exporters | 141 | 12 | 24 | -14 | 21 | 231 | 13 | 29 | -14 | 15 | |
| Middle East | 916 | 11 | 34 | -31 | 30 | 572 | 11 | 28 | -15 | 13 | |
| Asia | 4,685 | 11 | 15 | -18 | 31 | 4,503 | 11 | 21 | -20 | 32 | |
| China | 1,578 | 16 | 17 | -16 | 31 | 1,395 | 16 | 18 | -11 | 39 | |
| Japan | 770 | 5 | 9 | -26 | 33 | 693 | 6 | 23 | -28 | 25 | |
| India | 216 | 17 | 30 | -15 | 31 | 323 | 18 | 40 | -20 | 25 | |
| Newly industrialized economies (4) ^d | 1,111 | 9 | 10 | -17 | 30 | 1,103 | 9 | 17 | -24 | 33 | |
| Memorandum items: | | | | | | | | | | | |
| MERCOSUR ^e | 282 | 11 | 24 | -22 | 30 | 267 | 19 | 41 | -28 | 43 | |
| ASEAN ^f | 1,052 | 10 | 14 | -18 | 29 | 950 | 10 | 21 | -23 | 31 | |
| EU (27) extra-trade | 1,787 | 6 | 13 | -21 | 17 | 1,977 | 6 | 17 | -27 | 18 | |
| Least-developed countries (LDCs) | 164 | 15 | 32 | -24 | 28 | 174 | 15 | 30 | -5 | 13 | |

^aImports are valued f.o.b.

^bIncludes the Caribbean. For composition of groups see the Technical Notes of WTO, International Trade Statistics, 2010.

^cAlgeria, Angola, Cameroon, Chad, Congo, Equatorial Guinea, Gabon, Libya, Nigeria, Sudan.

^dHong Kong, China; Republic of Korea; Singapore; and Chinese Taipei.

^eCommon Market of the Southern Cone: Argentina, Brazil, Paraguay, Uruguay.

^fAssociation of Southeast Asian Nations: Brunei Darussalam; Cambodia; Indonesia; Lao People's Democratic Republic; Malaysia; Myanmar; Philippines; Singapore; Thailand; Viet Nam.

Source: WTO Secretariat.

Appendix Table 2: **World exports of commercial services by region and selected country, 2010**
(Billion dollars and percentage)

| | Value | Exports | | | | Imports | | | | |
|---|-------|--------------------------|---------|------|------|---------|--------------------------|------|------|------|
| | | Annual percentage change | | | | Value | Annual percentage change | | | |
| | | 2010 | 2005-10 | 2008 | 2009 | 2010 | 2005-10 | 2008 | 2009 | 2010 |
| World | 3,665 | 8 | 13 | -12 | 8 | 3,505 | 8 | 14 | -11 | 9 |
| North America | 599 | 7 | 9 | -8 | 9 | 471 | 6 | 9 | -9 | 9 |
| United States | 515 | 8 | 10 | -7 | 8 | 358 | 6 | 9 | -8 | 7 |
| South and Central America^a | 111 | 10 | 15 | -8 | 11 | 135 | 14 | 21 | -9 | 23 |
| Brazil | 30 | 15 | 27 | -9 | 15 | 60 | 22 | 28 | -1 | 35 |
| Europe | 1,724 | 6 | 12 | -14 | 2 | 1,504 | 6 | 12 | -13 | 1 |
| European Union (27) | 1,553 | 6 | 11 | -15 | 2 | 1,394 | 5 | 12 | -13 | 1 |
| Germany | 230 | 7 | 15 | -12 | 2 | 256 | 4 | 11 | -12 | 1 |
| United Kingdom | 227 | 2 | 0 | -19 | 0 | 156 | 0 | -1 | -19 | -1 |
| France | 140 | 3 | 12 | -14 | -1 | 126 | 3 | 9 | -10 | 0 |
| Netherlands | 111 | 4 | 13 | -9 | 0 | 109 | 5 | 14 | -3 | 1 |
| Spain | 121 | 5 | 12 | -14 | -1 | 85 | 5 | 9 | -17 | -1 |
| Commonwealth of Independent States (CIS) | 78 | 14 | 27 | -17 | 10 | 105 | 12 | 26 | -19 | 14 |
| Russian Federation | 44 | 12 | 30 | -19 | 6 | 70 | 13 | 30 | -20 | 18 |
| Ukraine | 16 | 12 | 27 | -23 | 20 | 11 | 10 | 43 | -30 | 0 |
| Africa | 86 | 9 | 14 | -9 | 11 | 141 | 14 | 30 | -12 | 12 |
| Egypt | 24 | 10 | 25 | -14 | 12 | 13 | 6 | 25 | -22 | -1 |
| South Africa | 14 | 5 | -8 | -6 | 21 | 18 | 9 | 2 | -13 | 25 |
| Morocco | 12 | 10 | 12 | -7 | 1 | 6 | 14 | 24 | -6 | 15 |
| Middle East | 103 | ... | ... | -3 | 9 | 185 | ... | ... | -8 | 9 |
| Israel | 24 | 7 | 15 | -10 | 11 | 17 | 5 | 13 | -14 | 3 |
| Asia | 963 | 12 | 16 | -11 | 21 | 961 | 11 | 16 | -10 | 20 |
| China ^b | 170 | 18 | 20 | -12 | 32 | 192 | 18 | 22 | 0 | 22 |
| Japan | 138 | 6 | 15 | -14 | 9 | 155 | 5 | 13 | -12 | 6 |
| India | 110 | ... | 20 | -13 | ... | 117 | ... | 25 | -9 | ... |
| Singapore | 112 | 15 | 17 | -6 | 20 | 96 | 12 | 17 | -9 | 21 |
| Korea, Republic of | 82 | 11 | 25 | -19 | 13 | 93 | 10 | 14 | -17 | 17 |
| Hong Kong, China | 108 | 11 | 9 | -6 | 25 | 51 | 9 | 11 | -5 | 15 |
| Australia | 48 | 9 | 12 | -8 | 17 | 50 | 11 | 21 | -15 | 22 |
| Memorandum item | | | | | | | | | | |
| EU (27) extra-trade | 684 | 7 | 12 | -14 | 5 | 598 | 7 | 16 | -13 | 6 |

^aIncludes the Caribbean. For composition of groups see Chapter IV Metadata of WTO International Trade Statistics, 2010.

^bPreliminary estimate.

Note: While provisional full-year data were available in early March for 50 economies accounting for more than two thirds of world commercial services trade, estimates for most other countries are based on data for the first three quarters.

Source: WTO Secretariat.

Appendix Table 3: **Merchandise trade: leading exporters and importers, 2010**
(Billion dollars and percentage)

| Rank | Exporters | Value | Share | Annual percentage change | Rank | Importers | Value | Share | Annual percentage change |
|------|--------------------------------------|---------------|--------------|--------------------------|------|-----------------------------------|---------------|--------------|--------------------------|
| 1 | China | 1,578 | 10.4 | 31 | 1 | United States | 1,968 | 12.8 | 23 |
| 2 | United States | 1,278 | 8.4 | 21 | 2 | China | 1,395 | 9.1 | 39 |
| 3 | Germany | 1,269 | 8.3 | 13 | 3 | Germany | 1,067 | 6.9 | 15 |
| 4 | Japan | 770 | 5.1 | 33 | 4 | Japan | 693 | 4.5 | 25 |
| 5 | Netherlands | 572 | 3.8 | 15 | 5 | France | 606 | 3.9 | 8 |
| 6 | France | 521 | 3.4 | 7 | 6 | United Kingdom | 558 | 3.6 | 15 |
| 7 | Korea, Republic of | 466 | 3.1 | 28 | 7 | Netherlands | 517 | 3.4 | 17 |
| 8 | Italy | 448 | 2.9 | 10 | 8 | Italy | 484 | 3.1 | 17 |
| 9 | Belgium | 411 | 2.7 | 11 | 9 | Hong Kong, China | 442 | 2.9 | 25 |
| 10 | United Kingdom | 405 | 2.7 | 15 | | – retained imports ^a | 116 | 0.8 | 31 |
| 11 | Hong Kong, China | 401 | 2.6 | 22 | 10 | Korea, Republic of | 425 | 2.8 | 32 |
| | – domestic exports ^a | 18 | 0.1 | 7 | 11 | Canada ^b | 402 | 2.6 | 22 |
| | – re-exports ^a | 383 | 2.5 | 23 | | | | | |
| 12 | Russian Federation | 400 | 2.6 | 32 | 12 | Belgium | 390 | 2.5 | 11 |
| 13 | Canada | 387 | 2.5 | 22 | 13 | India | 323 | 2.1 | 25 |
| 14 | Singapore | 352 | 2.3 | 30 | 14 | Spain | 312 | 2.0 | 6 |
| | – domestic exports | 183 | 1.2 | 32 | | | | | |
| | – re-exports | 169 | 1.1 | 28 | 15 | Singapore | 311 | 2.0 | 26 |
| 15 | Mexico | 298 | 2.0 | 30 | | – retained imports ^c | 142 | 0.9 | 24 |
| 16 | Taipei, Chinese | 275 | 1.8 | 35 | 16 | Mexico | 311 | 2.0 | 29 |
| 17 | Kingdom of Saudi Arabia ^a | 254 | 1.7 | 32 | 17 | Taipei, Chinese | 251 | 1.6 | 44 |
| 18 | Spain | 245 | 1.6 | 8 | 18 | Russian Federation ^b | 248 | 1.6 | 30 |
| 19 | United Arab Emirates ^a | 235 | 1.5 | 27 | 19 | Australia | 202 | 1.3 | 22 |
| 20 | India | 216 | 1.4 | 31 | 20 | Brazil | 191 | 1.2 | 43 |
| 21 | Australia | 212 | 1.4 | 38 | 21 | Turkey | 185 | 1.2 | 32 |
| 22 | Brazil | 202 | 1.3 | 32 | 22 | Thailand | 182 | 1.2 | 36 |
| 23 | Malaysia | 199 | 1.3 | 26 | 23 | Switzerland | 176 | 1.1 | 13 |
| 24 | Switzerland | 195 | 1.3 | 13 | 24 | Poland | 174 | 1.1 | 16 |
| 25 | Thailand | 195 | 1.3 | 28 | 25 | United Arab Emirates ^a | 170 | 1.1 | 13 |
| 26 | Sweden | 158 | 1.0 | 21 | 26 | Malaysia | 165 | 1.1 | 33 |
| 27 | Indonesia | 158 | 1.0 | 32 | 27 | Austria | 159 | 1.0 | 11 |
| 28 | Poland | 156 | 1.0 | 14 | 28 | Sweden | 148 | 1.0 | 23 |
| 29 | Austria | 152 | 1.0 | 11 | 29 | Indonesia | 132 | 0.9 | 46 |
| 30 | Czech Republic | 133 | 0.9 | 18 | 30 | Czech Republic | 126 | 0.8 | 20 |
| | Total of above^d | 12,541 | 82.3 | - | | Total of above^d | 12,712 | 82.7 | - |
| | World^d | 15,238 | 100.0 | 22 | | World^d | 15,376 | 100.0 | 21 |

^aSecretariat estimates.^bImports are valued f.o.b.^cSingapore's retained imports are defined as imports less re-exports.^dIncludes significant re-exports or imports for re-export.

Source: WTO Secretariat.

Appendix Table 4: **Merchandise trade: leading exporters and importers (excluding intra-EU (27) trade), 2010**
(Billion dollars and percentage)

| Rank | Exporters | Value | Share | Annual percentage change | Rank | Importers | Value | Share | Annual percentage change |
|------|--|--------|-------|--------------------------|------|--|--------|-------|--------------------------|
| 1 | Extra-EU (27) exports | 1,787 | 15.0 | 17 | 1 | Extra-EU (27) imports | 1,977 | 16.5 | 18 |
| 2 | China | 1,578 | 13.3 | 31 | 2 | United States | 1,968 | 16.4 | 23 |
| 3 | United States | 1,278 | 10.8 | 21 | 3 | China | 1,395 | 11.6 | 39 |
| 4 | Japan | 770 | 6.5 | 33 | 4 | Japan | 693 | 5.8 | 25 |
| 5 | Korea, Republic of | 466 | 3.9 | 28 | 5 | Hong Kong, China | 442 | 3.7 | 25 |
| | | | | | | – retained imports ^a | 116 | 1.0 | 31 |
| 6 | Hong Kong, China | 401 | 3.4 | 22 | 6 | Korea, Republic of | 425 | 3.5 | 32 |
| | – domestic exports ^a | 18 | 0.2 | 7 | | | | | |
| | – re-exports ^a | 383 | 3.2 | 23 | | | | | |
| 7 | Russian Federation | 400 | 3.4 | 32 | 7 | Canada ^b | 402 | 3.3 | 22 |
| 8 | Canada | 387 | 3.3 | 22 | 8 | India | 323 | 2.7 | 25 |
| 9 | Singapore | 352 | 3.0 | 30 | 9 | Singapore | 311 | 2.6 | 26 |
| | – domestic exports | 183 | 1.5 | 32 | | – retained imports ^c | 142 | 1.2 | 24 |
| | – re-exports | 169 | 1.4 | 28 | | | | | |
| 10 | Mexico | 298 | 2.5 | 30 | 10 | Mexico | 311 | 2.6 | 29 |
| 11 | Taipei, Chinese | 275 | 2.3 | 35 | 11 | Taipei, Chinese | 251 | 2.1 | 44 |
| 12 | Kingdom of Saudi Arabia ^a | 254 | 2.1 | 32 | 12 | Russian Federation ^b | 248 | 2.1 | 30 |
| 13 | United Arab Emirates ^a | 235 | 2.0 | 27 | 13 | Australia | 202 | 1.7 | 22 |
| 14 | India | 216 | 1.8 | 31 | 14 | Brazil | 191 | 1.6 | 43 |
| 15 | Australia | 212 | 1.8 | 38 | 15 | Turkey | 185 | 1.5 | 32 |
| 16 | Brazil | 202 | 1.7 | 32 | 16 | Thailand | 182 | 1.5 | 36 |
| 17 | Malaysia | 199 | 1.7 | 26 | 17 | Switzerland | 176 | 1.5 | 13 |
| 18 | Switzerland | 195 | 1.6 | 13 | 18 | United Arab Emirates ^a | 170 | 1.4 | 13 |
| 19 | Thailand | 195 | 1.6 | 28 | 19 | Malaysia | 165 | 1.4 | 33 |
| 20 | Indonesia | 158 | 1.3 | 32 | 20 | Indonesia | 132 | 1.1 | 46 |
| 21 | Norway | 132 | 1.1 | 9 | 21 | Kingdom of Saudi Arabia ^a | 102 | 0.8 | 7 |
| 22 | Turkey | 114 | 1.0 | 12 | 22 | South Africa | 94 | 0.8 | 29 |
| 23 | Iran, Islamic Rep. of ^a | 101 | 0.8 | 28 | 23 | Viet Nam | 85 | 0.7 | 21 |
| 24 | South Africa | 82 | 0.7 | 33 | 24 | Norway | 77 | 0.6 | 11 |
| 25 | Nigeria ^a | 79 | 0.7 | 49 | 25 | Iran, Islamic Rep. of ^a | 63 | 0.5 | 24 |
| 26 | Viet Nam | 72 | 0.6 | 26 | 26 | Israel ^a | 61 | 0.5 | 24 |
| 27 | Chile | 70 | 0.6 | 30 | 27 | Ukraine | 61 | 0.5 | 34 |
| 28 | Argentina | 69 | 0.6 | 23 | 28 | Philippines ^a | 58 | 0.5 | 27 |
| 29 | Kuwait ^a | 66 | 0.6 | 27 | 29 | Chile | 58 | 0.5 | 37 |
| 30 | Bolivarian Rep. of Venezuela | 66 | 0.6 | 14 | 30 | Argentina | 56 | 0.5 | 46 |
| | Total of above ^d | 10,709 | 90.2 | - | | Total of above ^d | 10,865 | 90.4 | - |
| | World ^d (excl. intra-EU (27)) | 11,878 | 100.0 | 26 | | World ^d (excl. intra-EU (27)) | 12,016 | 100.0 | 24 |

^aSecretariat estimates.^bImports are valued f.o.b.^cSingapore's retained imports are defined as imports less re-exports.^dIncludes significant re-exports or imports for re-export.

Source: WTO Secretariat.

Appendix Table 5: **Leading exporters and importers in world trade in commercial services, 2010**
(Billion dollars and percentage)

| Rank | Exporters | Value | Share | Annual percentage change | Rank | Importers | Value | Share | Annual percentage change |
|-----------------------|----------------------|--------------|--------------|--------------------------|-----------------------|--------------------------------------|--------------|--------------|--------------------------|
| 1 | United States | 515 | 14.1 | 8 | 1 | United States | 358 | 10.2 | 7 |
| 2 | Germany | 230 | 6.3 | 2 | 2 | Germany | 256 | 7.3 | 1 |
| 3 | United Kingdom | 227 | 6.2 | 0 | 3 | China ^a | 192 | 5.5 | 22 |
| 4 | China ^a | 170 | 4.6 | 32 | 4 | United Kingdom | 156 | 4.5 | -1 |
| 5 | France | 140 | 3.8 | -1 | 5 | Japan | 155 | 4.4 | 6 |
| 6 | Japan | 138 | 3.8 | 9 | 6 | France | 126 | 3.6 | 0 |
| 7 | Spain | 121 | 3.3 | -1 | 7 | India | 117 | 3.3 | ... |
| 8 | Singapore | 112 | 3.0 | 20 | 8 | Netherlands | 109 | 3.1 | 1 |
| 9 | Netherlands | 111 | 3.0 | 0 | 9 | Italy | 108 | 3.1 | 1 |
| 10 | India | 110 | 3.0 | ... | 10 | Ireland | 106 | 3.0 | 2 |
| 11 | Hong Kong, China | 108 | 2.9 | 25 | 11 | Singapore | 96 | 2.7 | 21 |
| 12 | Italy | 97 | 2.6 | 3 | 12 | Korea, Republic of | 93 | 2.7 | 17 |
| 13 | Ireland | 95 | 2.6 | 3 | 13 | Canada | 89 | 2.6 | 15 |
| 14 | Korea, Republic of | 82 | 2.2 | 13 | 14 | Spain | 86 | 2.4 | -1 |
| 15 | Belgium | 81 | 2.2 | 2 | 15 | Belgium | 76 | 2.2 | 4 |
| 16 | Switzerland | 76 | 2.1 | 6 | 16 | Russian Federation | 70 | 2.0 | 18 |
| 17 | Luxembourg | 68 | 1.9 | 13 | 17 | Brazil | 60 | 1.7 | 35 |
| 18 | Canada | 66 | 1.8 | 15 | 18 | Hong Kong, China | 51 | 1.5 | 15 |
| 19 | Sweden | 64 | 1.7 | 9 | 19 | Australia | 50 | 1.4 | 22 |
| 20 | Denmark | 58 | 1.6 | 7 | 20 | Kingdom of Saudi Arabia ^b | 49 | 1.4 | ... |
| 21 | Austria | 53 | 1.5 | -1 | 21 | Denmark | 49 | 1.4 | -1 |
| 22 | Australia | 48 | 1.3 | 17 | 22 | Sweden | 48 | 1.4 | 6 |
| 23 | Russian Federation | 44 | 1.2 | 6 | 23 | Thailand | 45 | 1.3 | 21 |
| 24 | Taipei, Chinese | 41 | 1.1 | 29 | 24 | United Arab Emirates ^b | 42 | 1.2 | ... |
| 25 | Norway | 40 | 1.1 | 5 | 25 | Norway | 41 | 1.2 | 12 |
| 26 | Greece | 37 | 1.0 | -1 | 26 | Switzerland | 38 | 1.1 | -1 |
| 27 | Thailand | 34 | 0.9 | 15 | 27 | Luxembourg | 38 | 1.1 | 8 |
| 28 | Turkey | 33 | 0.9 | 0 | 28 | Taipei, Chinese | 37 | 1.1 | 28 |
| 29 | Malaysia | 33 | 0.9 | 13 | 29 | Austria | 36 | 1.0 | -2 |
| 30 | Poland | 32 | 0.9 | 11 | 30 | Indonesia | 33 | 0.9 | 18 |
| 31 | Brazil | 30 | 0.8 | 15 | 31 | Malaysia | 32 | 0.9 | 18 |
| 32 | Macao, China | 28 | 0.8 | 51 | 32 | Poland | 27 | 0.8 | 16 |
| 33 | Finland | 25 | 0.7 | -10 | 33 | Czech Republic | 24 | 0.7 | 28 |
| 34 | Israel | 24 | 0.7 | 11 | 34 | Mexico | 23 | 0.7 | 8 |
| 35 | Egypt | 24 | 0.6 | 12 | 35 | Finland | 23 | 0.7 | -11 |
| 36 | Portugal | 23 | 0.6 | 2 | 36 | Nigeria ^b | 20 | 0.6 | ... |
| 37 | Czech Republic | 22 | 0.6 | 10 | 37 | Greece | 20 | 0.6 | 2 |
| 38 | Hungary | 18 | 0.5 | 1 | 38 | Iran, Islamic Rep. of ^b | 19 | 0.5 | ... |
| 39 | Lebanon ^b | 18 | 0.5 | ... | 39 | Angola ^b | 18 | 0.5 | ... |
| 40 | Indonesia | 17 | 0.5 | 25 | 40 | Turkey | 18 | 0.5 | 17 |
| Total of above | | 3,290 | 89.8 | - | Total of above | | 3,035 | 86.7 | - |
| World | | 3,665 | 100.0 | 8 | World | | 3,505 | 100.0 | 9 |

^aPreliminary estimate.

^bSecretariat estimate.

Note: Figures for a number of countries and territories have been estimated by the Secretariat. Annual percentage changes and rankings are affected by continuity breaks in the series for a large number of economies, and by limitations in cross-country comparability. See the Metadata.

Source: WTO Secretariat.

Appendix Table 6: Leading exporters and importers of commercial services excluding intra-EU (27) trade, 2010 (Billion dollars and percentage)

| Rank | Exporters | Value | Share | Annual percentage change | Rank | Importers | Value | Share | Annual percentage change |
|-----------------------|--------------------------------------|--------------|--------------|--------------------------|-----------------------|--------------------------------------|--------------|--------------|--------------------------|
| 1 | EU (27) Extra-EU (27) | 684 | 24.5 | 5 | 1 | EU (27) Extra-EU (27) | 598 | 22.1 | 6 |
| 2 | United States | 515 | 18.4 | 8 | 2 | United States | 358 | 13.2 | 7 |
| 3 | China ^a | 170 | 6.1 | 32 | 3 | China ^a | 192 | 7.1 | 22 |
| 4 | Japan | 138 | 4.9 | 9 | 4 | Japan | 155 | 5.7 | 6 |
| 5 | Singapore | 112 | 4.0 | 20 | 5 | India | 117 | 4.3 | ... |
| 6 | India | 110 | 3.9 | ... | 6 | Singapore | 96 | 3.5 | 21 |
| 7 | Hong Kong, China | 108 | 3.9 | 25 | 7 | Korea, Republic of | 93 | 3.4 | 17 |
| 8 | Korea, Republic of | 82 | 2.9 | 13 | 8 | Canada | 89 | 3.3 | 15 |
| 9 | Switzerland | 76 | 2.7 | 6 | 9 | Russian Federation | 70 | 2.6 | 18 |
| 10 | Canada | 66 | 2.4 | 15 | 10 | Brazil | 60 | 2.2 | 35 |
| 11 | Australia | 48 | 1.7 | 17 | 11 | Hong Kong, China | 51 | 1.9 | 15 |
| 12 | Russian Federation | 44 | 1.6 | 6 | 12 | Australia | 50 | 1.8 | 22 |
| 13 | Taipei, Chinese | 41 | 1.5 | 29 | 13 | Kingdom of Saudi Arabia ^b | 49 | 1.8 | ... |
| 14 | Norway | 40 | 1.4 | 5 | 14 | Thailand | 45 | 1.7 | 21 |
| 15 | Thailand | 34 | 1.2 | 15 | 15 | United Arab Emirates ^b | 42 | 1.5 | ... |
| 16 | Turkey | 33 | 1.2 | 0 | 16 | Norway | 41 | 1.5 | 12 |
| 17 | Malaysia | 33 | 1.2 | 13 | 17 | Switzerland | 38 | 1.4 | -1 |
| 18 | Brazil | 30 | 1.1 | 15 | 18 | Taipei, Chinese | 37 | 1.4 | 28 |
| 19 | Macao, China | 28 | 1.0 | 51 | 19 | Indonesia | 33 | 1.2 | 18 |
| 20 | Israel | 24 | 0.9 | 11 | 20 | Malaysia | 32 | 1.2 | 18 |
| 21 | Egypt | 24 | 0.9 | 12 | 21 | Mexico | 23 | 0.9 | 8 |
| 22 | Lebanon ^b | 18 | 0.6 | ... | 22 | Nigeria ^b | 20 | 0.7 | ... |
| 23 | Indonesia | 17 | 0.6 | 25 | 23 | Iran, Islamic Rep. of ^b | 19 | 0.7 | ... |
| 24 | Mexico | 16 | 0.6 | 5 | 24 | Angola ^b | 18 | 0.7 | ... |
| 25 | Ukraine | 16 | 0.6 | 20 | 25 | Turkey | 18 | 0.7 | 17 |
| 26 | South Africa | 14 | 0.5 | 21 | 26 | South Africa | 18 | 0.7 | 25 |
| 27 | Argentina | 13 | 0.5 | 18 | 27 | Israel | 17 | 0.6 | 3 |
| 28 | Philippines | 12 | 0.4 | 21 | 28 | Lebanon ^b | 15 | 0.6 | ... |
| 29 | Morocco | 12 | 0.4 | 1 | 29 | Argentina | 14 | 0.5 | 17 |
| 30 | Kuwait ^b | 11 | 0.4 | ... | 30 | Egypt | 13 | 0.5 | -1 |
| 31 | Croatia | 11 | 0.4 | -7 | 31 | Kuwait ^b | 12 | 0.5 | ... |
| 32 | United Arab Emirates ^b | 10 | 0.4 | ... | 32 | Algeria ^b | 12 | 0.4 | ... |
| 33 | Kingdom of Saudi Arabia ^b | 10 | 0.4 | ... | 33 | Ukraine | 11 | 0.4 | 0 |
| 34 | Chile | 10 | 0.3 | 15 | 34 | Chile | 11 | 0.4 | 17 |
| 35 | Cuba ^b | 9 | 0.3 | ... | 35 | Philippines | 11 | 0.4 | 25 |
| 36 | New Zealand | 9 | 0.3 | 14 | 36 | Kazakhstan | 10 | 0.4 | 4 |
| 37 | Iran, Islamic Rep. of ^b | 8 | 0.3 | ... | 37 | Bolivarian Rep. of Venezuela | 10 | 0.4 | 10 |
| 38 | Viet Nam | 8 | 0.3 | 32 | 38 | New Zealand | 9 | 0.3 | 15 |
| 39 | Panama | 6 | 0.2 | 8 | 39 | Viet Nam | 8 | 0.3 | 24 |
| 40 | Tunisia | 5 | 0.2 | -1 | 40 | Colombia | 8 | 0.3 | 17 |
| Total of above | | 2,655 | 95.0 | - | Total of above | | 2,525 | 93.3 | - |
| World | | 2,795 | 100.0 | 11 | World | | 2,705 | 100.0 | 13 |

^aPreliminary estimate.^bSecretariat estimate.

Note: Figures for a number of countries and territories have been estimated by the Secretariat. Annual percentage changes and rankings are affected by continuity breaks in the series for a large number of economies, and by limitations in cross-country comparability. See the Metadata.

Source: WTO Secretariat.

Appendix Figure 1: Monthly merchandise exports and imports of selected economies,
January 2006 - January 2011 (Billion dollars)



Source: IMF International Financial Statistics, Global Trade Information Services GTA database, national statistics.

Appendix Figure 1: Monthly merchandise exports and imports of selected economies, January 2006 - January 2011 (Billion dollars) (continued)



Source: IMF International Financial Statistics, Global Trade Information Services GTA database, national statistics.

Appendix Figure 1: Monthly merchandise exports and imports of selected economies,
January 2006 - January 2011 (Billion dollars) (continued)



Source: IMF International Financial Statistics, Global Trade Information Services GTA database, national statistics.

II. The WTO and preferential trade agreements: From co-existence to coherence

The World Trade Report 2011 describes the historical development of PTAs and the current landscape of agreements. It examines why PTAs are established, their economic effects, and the contents of the agreements themselves. Finally it considers the interaction between PTAs and the multilateral trading system.

Contents

| | |
|---|-----|
| A. Introduction | 42 |
| B. Historical background and current trends | 46 |
| C. Causes and effects of PTAs: Is it all about preferences? | 92 |
| D. Anatomy of preferential trade agreements | 122 |
| E. The multilateral trading system and PTAs | 164 |
| F. Conclusions | 196 |

A. Introduction

The rapid increase in preferential trade agreements (PTAs) has been a prominent feature of international trade policy in recent times. PTAs constitute an exception to the general most-favoured nation (MFN) provision of the WTO, whereby all WTO members impose on each other the same non-discriminatory tariff. With the exception of Mongolia, all WTO members are party to at least one PTA. Interest in negotiating PTAs appears to have been sustained despite the global economic crisis. Indeed, the economic crisis itself may be spurring governments to negotiate new PTAs as much to preserve existing openness in the face of political pressure to reduce access as to generate new openness. The explosion of PTAs has triggered a parallel eruption of research on the subject. Nevertheless, this report provides fresh perspectives and insights into this important area of trade policy.

Contents

| | |
|---|----|
| 1. Perspectives and insights in the World Trade Report 2011 | 44 |
| 2. Structure of the report | 45 |

Although the term “regional trade agreement” has become widely used, this report uses the more generic term PTA, since a large number of agreements are not limited to countries within a single region. The report only covers reciprocal preferential agreements – regional, bilateral or plurilateral. Non-reciprocal agreements are certainly deserving of study, but almost 90 per cent of the global trade-weighted preference margin (i.e. the difference between the lowest applicable preferential tariff and the MFN rate applied to other trading partners) is related to preferential tariffs under reciprocal agreements (see Section B). PTAs may be free trade agreements, or customs unions with common external tariffs.

1. Perspectives and insights in the World Trade Report 2011

(a) International production networks

Some explanations for why countries enter into PTAs have not received enough attention and deserve to be examined more closely. The international fragmentation of production, already present in the early 1960s, has expanded significantly. Data suggest that in the last two decades offshoring in both intermediate goods and services has grown at a faster pace than trade in final goods. In particular, growth in East Asia and the economic transformation of Eastern Europe appear to have significantly intensified these phenomena (Jones et al., 2005). This report links the increasing number of PTAs with the growing importance of international production networks and delves closely into this relationship.

(b) Preferential trade flows and tariffs

The explosion of PTAs is not being matched by an expansion in trade flows that receive preferential treatment. This report provides what is probably the most systematic estimation of the magnitude of preferential trade and the result proves to be an eye-opener. Only 16 per cent of global merchandise trade receives preferential treatment if trade within the European Union is excluded. Perhaps this result should not be surprising in light of the huge reduction in tariffs that has occurred since the end of the Second World War (half of global merchandise trade has applied MFN tariff rates of zero). Onerous rules of origin procedures sometimes associated with free trade agreements have contributed to these low figures by making the costs of compliance requirements higher than the perceived worth of the underlying preference margins.

Benefiting from a newly created database on preferential tariffs, this report establishes that preferential margins are small when they are adjusted to account for the preferential access enjoyed by other exporters. The proliferation of PTAs means that the difference between the MFN rate and the PTA rate overstates the competitive advantage of a PTA member, since increasingly its

competitors will also enjoy preferential access to the market. The report estimates that in 2007, preference margins appropriately adjusted to take account of the presence of other preferential suppliers were no greater than 2 per cent in absolute value for the bulk (more than 87 per cent) of all merchandise trade. The implication of these results is that one has to look beyond tariffs to explain why countries enter into PTAs.

(c) Beyond trade creation and trade diversion

While nearly all trade agreements contain provisions on preferential tariffs, most PTAs now cover a wide range of issues beyond tariffs, including services,¹ investment, intellectual property protection, and competition policy. These policy areas involve domestic regulations (or behind-the-border measures). In some of these new areas, the agreements are “deeper”, either in the sense that they commit members to a greater degree of market integration than the WTO (e.g. the removal of all barriers to service providers of PTA partners), or that some policy prerogative is delegated from a national to a supra-national level (e.g. the creation of regional standards).

Deep integration is likely to occur for several different reasons. First, trade openness increases policy inter-dependency (spillovers) that makes unilateral decision-making inefficient compared with decisions taken collectively. A second reason is that deep integration agreements may be necessary to promote trade in certain sectors and economic integration more broadly. This second explanation applies to international production networks which require a governance structure beyond low tariffs. If these agreements result primarily in changes to domestic regulations, one may need to think in terms of a framework distinct from trade creation and trade diversion because changes to domestic regulations are difficult to tailor so as to favour only certain trade partners.

(d) A viable WTO agenda on PTAs

The significance of PTAs from the perspective of the multilateral trading system is inadequately captured by the old idiom of stumbling blocks and building blocks. The underlying question behind this approach was whether preferential tariff opening would eventually lead to multilateral opening. This analysis does not, however, mean that PTAs are an altogether benign phenomenon that can be ignored by the multilateral trading system. More subtle forms of discrimination may be embedded in PTAs, and PTAs can raise transaction costs.

A number of possible ways for the WTO to interact with PTAs are discussed in the report – some of which have been tried more than others in the past. These options include i) fixing deficiencies in the WTO legal framework (i.e. a “hard law” approach); ii) adopting a more nuanced and non-litigious approach to considering PTAs in the

context of transparency and information exchange in order better to understand mutual multilaterally based interests in relation to PTAs (a “soft law” approach); iii) accelerating a multilateral MFN-driven agenda on trade opening; and iv) multilateralizing (aligning and consolidating) PTA-related initiatives over time into the WTO framework. This last approach could involve revisiting WTO approaches to decision-making so as to contemplate non-discriminatory WTO-sanctioned agreements among groups of members (“critical mass”) that would support a multilateralization process. These approaches are not necessarily mutually exclusive. Moreover, they all aim to reinforce compatibility and coherence between PTAs and the multilateral trading system.

2. Structure of the report

The report is divided into four main parts.

Historical background and current trends

This section provides both a historical analysis of PTAs and a description of the current landscape. It documents the large increase in PTA activity in recent years, breaking this down by region, level of economic development, and type of integration agreement. It provides a precise estimate of how much trade in PTAs receives preferential treatment.

Causes and effects of PTAs

This section surveys the causes and consequences of PTAs, with a focus on both economic and political explanations. An important distinction is made between shallow integration, which focuses solely or mostly on border measures, and deep integration in which cooperation extends to “behind-the-border” measures.

Deep integration may be necessary to stimulate more trade. At the same time, the decision to sign deep agreements may be the result of trade openness itself and the structure of trade, such as the presence of international production networks. To flourish, these networks may require a degree of international governance that only deep integration can supply. Whatever the motivations for deeper integration, standard theory based on the notions of trade creation and trade diversion is inadequate for capturing the full picture. To the extent that deep integration in PTAs involves changes to domestic regulations rather than already low tariffs, trade diversion may not pose as serious a risk. The section argues that traditional theories do not fully explain the emerging pattern of PTAs and that the relationship between trade agreements and production networks, among other explanations, should be considered when analysing PTAs.

Anatomy of PTAs

This section validates the hypothesis that more and more PTAs go beyond tariffs by examining the contents of the agreements. It establishes a key empirical result of the report, namely that preferential tariff margins, adjusted to take account of the proliferation of PTAs, are small. The section confirms the broadening sectoral coverage of PTAs and examines how far they contain legally enforceable commitments in services, investment, technical barriers to trade and competition policy, which are all likely to be crucial for production networks. The commitments in these policy areas are also deeper – whether measured relative to multilateral commitments or in terms of the degree of market integration aimed for.

Using trade in parts and components as a proxy for the degree of production networking among countries, empirical evidence is presented which demonstrates the strong link between these networks and PTAs. Deep PTAs increase the volume of trade in parts and components among members. Finally, the section examines several examples of preferential trade agreements in East Asia, Latin America and Africa to consider how well they fit the hypothesis of international production networks.

The multilateral trading system and PTAs

This section identifies areas of synergies and potential conflicts between preferential trade agreements and the multilateral trading system and examines ways in which the two “trade systems” can be made more coherent. Preferential tariffs, although less important than in the past, can erode the motivation for multilateral trade opening. “Deep” PTA provisions often have non-discriminatory effects and international production networks can alter political economy forces that lead to the multilateralization of regional initiatives. The possibility of competing dispute settlement systems creates hazards of its own. Finally, the section reviews how the GATT/WTO has historically dealt with the subject of preferential trade agreements. Taking this history into account, the section concludes with a reflection on what the WTO’s future agenda on PTAs could look like.

Endnotes

1 Some agreements only cover services and therefore contain no tariff commitments.

B. Historical background and current trends

Preferential trade agreements (PTAs) have been around for centuries – long before the creation of the General Agreement on Tariffs and Trade (GATT) in 1947. This section provides a broad overview of the evolution of these agreements. It begins with a historical account of the process towards greater openness and economic integration that started with the trade networks of the mid-nineteenth century. It identifies the multiple setbacks and reversals along the way, and finally portrays the different “waves” of agreements that have accompanied the multilateral trading system since its creation. It highlights that there has been a creative tension between regional and multilateral approaches which, although often complicated, has generally advanced trade openness and economic integration.

Contents

| | |
|--|----|
| 1. The formation of PTAs: a historical perspective | 48 |
| 2. The evolution of PTAs: stylized facts | 54 |
| 3. Trade flows related to PTAs | 63 |
| 4. How preferential is trade? | 72 |
| 5. Conclusions | 85 |

Some key facts and findings

- Almost 300 preferential trade agreements (notified and not notified) were in force in 2010.
- 13 is the average number of PTAs that a WTO member is party to.
- Only 16 per cent of global merchandise trade receives preferential treatment.
- Less than 2 per cent of world trade is eligible for preference margins above 10 percentage points.

A variety of statistical information is presented to characterize patterns in PTA formation over time and to describe the PTA landscape that we face today. These patterns include the rapid expansion and intensification of PTA activity, particularly over the past 20 years. This expansion is characterized by increasing developing country participation, as well as the spanning of regional boundaries and the proliferation of bilateral deals. At the same time, evidence is provided that the explosion of PTAs has not been matched by an expansion of preferential trade flows.

While one half of world merchandise trade takes place among PTA partners (including trade within the EU), only a fraction of this is preferential (e.g. on the basis of lower tariffs for the trading partners) and, in addition, preference margins (i.e. the difference between the lowest applicable preferential tariff and the non-discriminatory most-favoured nation rate applied to other trading partners) are small. Specific factors affecting preference utilization are also examined. By pointing out countries' continued interest in concluding PTAs on the one hand and the reduced scope for preferential market access on the other, this section sets the stage for subsequent parts of this report that will examine alternative rationales for the formation of PTAs and the related issue of "deep" integration.

Since the EU's member states have ceded responsibility for trade policy to the federal level, it often makes more sense to treat the bloc as a single entity and to exclude trade within the EU from share calculations. Hence, unless otherwise stated, this convention will be followed through much of the discussion in Section B. However, the relevant tables will continue to show figures including and excluding intra-EU trade.

1. The formation of PTAs: a historical perspective

There is nothing new about PTAs – nor about the debate on whether they have a positive or negative effect on economic relations. Throughout modern history, countries have secured and strengthened their trade relations through various arrangements – from colonial preferences to bilateral commercial treaties to broader regional agreements. These arrangements have also overlapped and interacted, creating a global trade landscape defined less by clear-cut choices between regionalism and multilateralism than by the complex interplay, even competition, among multiple trade regimes. Despite the system's complex and sometimes messy evolution, several long-term trends are discernible.

First, international trade cooperation has generally become wider and more inclusive – with more countries entering into binding agreements, and with more rules being consolidated in the increasingly "global" architecture of the World Trade Organization (WTO). Secondly, trade agreements have generally become "deeper", as well as "wider", by reaching into new policy

areas such as services trade, foreign investment, intellectual property and government procurement – a reflection of the deepening integration of the world economy, and the growing "globalization" of policies that were once considered domestic. Thirdly, and most significantly, world trade has become progressively more open and less discriminatory over recent decades – with the paradoxical result that preferential bilateral and regional agreements continue to proliferate, even as the salience of preferences is diminishing, suggesting that countries have motives other than simply market access for entering into such arrangements.

While the historical trend has been towards more openness and deeper rules in international trade agreements – and away from protectionist blocs – progress has not been in a straight line, and there have been major set-backs and reversals along the way. Although it is difficult to generalize, the pressure to slip backwards into more inward-looking and defensive trade arrangements has been strongest during periods of economic contraction, financial instability and geopolitical insecurity. For instance, the economic depression of the early 1870s effectively brought to an end the rapid expansion of Europe's network of bilateral trade treaties, just as the "Great Depression" of the early 1930s helped fuel the spread of defensive and hostile trade blocs in the inter-war period.

Conversely, the push for a more open and inclusive trading order has been strongest during periods of economic expansion and international peace – and in the aftermath of the system's breakdown or collapse. The most striking example is the creation of the "multilateral" GATT in the post-war period in response to the restrictive and discriminatory trade blocs of the 1930s which had exacerbated the economic slump and contributed to the outbreak of the Second World War.

The recent explosion of bilateral and regional agreements has once again moved the debate about the causes and effects of PTAs – both positive and negative – to the fore. Some argue that it signals a weakening of international commitment to multilateralism, and foreshadows a return to more fragmented world trade. Others suggest that it is part of the pattern seen since the Second World War where bilateral and regional agreements provide an avenue for "faster" and "deeper" rule-making than the broader WTO – spurring subsequent progress in the multilateral system, and offering a coherent, rather than conflicting, approach to managing more integrated world trade.

(a) From empires to international agreements

To view the history of the world trading system as a stark choice between regionalism and multilateralism – or between preferential and non-preferential agreements – is too simplistic. For most of modern history, trade agreements were more or less limited in geographic scope – usually taking the form of colonial

spheres of influence, associated with empires, or bilateral commercial treaties, mainly among European powers. Only with the creation of the GATT in 1947 did the idea of a wider, multilateral agreement move to the forefront of international trade relations; and even then the scope of the initial GATT system was modest, involving just 23 countries in a plurilateral agreement, and only gradually evolving to the near “universal” membership of the modern WTO.¹

Similarly, the distinction between preferential and non-preferential trade arrangements is more a matter of degree than of kind. Strictly speaking, all trade agreements – bilateral, regional, multilateral – are preferential in the sense that their benefits and obligations apply to members only, and non-members are excluded; this is true even of the modern WTO, where more than 30 countries, including Russia, remain outside the system. What really defined the various historical phases of the international trading system was whether countries' underlying policy objective was to expand and open up their trade relations or to restrict and limit them.

Empires were one of the earliest means of securing trade interests. Powerful states – from the Romans to the Ottomans, to the British – used influence and force to create colonial empires or “spheres of influence” that gave their traders and manufacturers secure access to foreign markets, often on an exclusive basis. Although bilateral commercial treaties have also existed for centuries,² the widespread idea that international agreements could secure trade interests is relatively modern, dating mainly from the eighteenth and nineteenth centuries (Trebilcock and Howse, 1995). Early commercial treaties were concerned less with opening up new markets and liberalizing trade than with ensuring that a country's traders enjoyed protection from arbitrary arrest and seizure in foreign countries – hence the focus on securing for their merchants (and their property) the same treatment under the laws of another state that were enjoyed by domestic merchants, a precursor of the WTO's “national treatment” principle.

Since most European countries also routinely restricted the extent to which foreign ships could carry goods to and from their ports, especially in their increasingly important trade with overseas colonies,³ early bilateral trade treaties did not attempt to dismantle these domestic protections, but merely sought to ensure that a foreign merchant marine was treated no less favourably than other foreign shipping – leading to the inclusion of a “most favoured nation” (MFN) clause in some early treaties (Brown, 2003).

(b) The nineteenth century: surging trade and expanding agreements

The nineteenth century saw a major shift in the nature and scope of bilateral trade treaties in the direction of more openness and liberalization – prompted by a huge expansion in international trade and by Great Britain's

rapid rise as the world's pre-eminent economic power and a staunch open-trade advocate. British industrialists, especially in rising centres such as London, Manchester and Glasgow, began to feel that they no longer needed protection from foreign competitors, and argued that the country's restrictive trade policies only served to encourage other countries to exclude British exports from their markets.

British industrialists also believed that Britain's competitiveness could be strengthened by reducing domestic labour costs – which, in their view, were adversely impacted by Britain's high agricultural import barriers, the so-called Corn Laws (Brown, 2003). Underpinning this policy and political shift was growing support for the open trade ideas that had been advanced by the theories of Adam Smith and David Ricardo.⁴

In addition to significant unilateral tariff reductions during this period, Britain passed the Reciprocity of Duties Act in 1823 – which greatly eased restrictions on the British carry trade (i.e. materials from the colonies that Britain could not produce), a key feature of the earlier Navigation Acts, and allowed for the reciprocal reduction of import duties in bilateral treaties negotiated with like-minded countries. An even more important step was the signing of the Cobden-Chavalier Treaty between Britain and France in 1860, which for the first time involved significant reciprocal tariff reductions between the two countries and included a strong MFN clause (i.e. the principle of not discriminating between one's trading partners).

Aimed at improving political relations between Britain and France through strengthened economic ties, the Cobden-Chavalier Treaty also sparked a wave of bilateral negotiations among Europe's other economic powers – an early manifestation of the process of competitive trade liberalization, or “domino effect”, seen today. These negotiations were driven by the need to gain equivalent access to the French and British markets and by the promise of non-discriminatory treatment. Whether the Cobden-Chavalier Treaty and its successors ushered in the “great phase of European free trade” (Bairock, 1989) – or merely reflected continental Europe's growing acceptance of the logic of unilateral trade liberalization – is a matter of ongoing historical debate (Accominotti and Flandreau, 2008).

What is clear is that the treaty helped spark an expanding network of bilateral MFN trade treaties in Europe. By one estimate, tariff levels were cut by half in the wake of these agreements and, because they lasted for a period of ten years, a greater measure of certainty was introduced into trade relations (Shafaeddin, 1998). Since this new network of treaties was both reciprocal and inclusive (via the MFN clause), it was also essentially interlocking – creating an early form of “plurilateral” preferential trade agreement (i.e. unconditional MFN treatment among all treaty-signers) and foreshadowing the basic structure of the multilateral system that took shape a century later (Brown, 2003).

By the late nineteenth century, however, the momentum towards a more open, less preferential trading system was beginning to slow. The worldwide depression from 1873 to 1877 – possibly as severe as the Great Depression 60 years later – increased pressure for more domestic protection and weakened the drive for access to foreign markets (Shafaeddin, 1998). The unification of Germany and Italy in the early 1870s also placed pressure on Europe's non-discriminatory system of trade relations, as both countries sought to consolidate their newly-achieved national unity by raising external tariff barriers (Trebilcock and Howse, 1995).

Another problem was that the United States refused to become part of Europe's network of non-discriminatory treaties, instead negotiating its own reciprocal and preferential bilateral agreements. As United States' exports expanded, especially in grain and manufactured goods, European trade partners grew less willing to provide unconditional MFN treatment to American "free riders" without reciprocal treatment in the expanding US market (Brown, 2003).

An even greater threat to trade openness and non-discrimination was the race among the leading economic powers, including the United States, at the end of the nineteenth and the beginning of the twentieth century to establish or expand their overseas colonies and spheres of influence. The motivation was not just to carve out exclusive markets for their exports but to secure national self-sufficiency in raw materials. Even in Britain, the prevailing open trade policy was being challenged by growing numbers urging that preferential trade, such as lower tariffs, be granted to Britain's overseas colonies.

A series of isolated trade wars also broke out during this period, causing further strain within the trading system.⁵ Although trade flows continued to expand during this period, the momentum towards building a network of trade rules and institutions had clearly been lost by the outbreak of the First World War in 1914 (Brown, 2003).

(c) First World War and the Great Depression: resurgent regionalism

The First World War shattered the more open and integrated world trading system that had been built up over the previous century. Despite various attempts in the 1920s to restore what had been achieved and to advance international economic cooperation – most notably at the League of Nation's World Economic Conference in 1927 – the recovery of the international trade and payments system was slow and tentative. This slow recovery was a reflection of fragile economic growth, chronic exchange rate instability and the reluctance of the United States to take up the mantle of economic leadership gradually surrendered by an economically weakened and overstretched Britain (Brown, 2003).

Worse, any tentative progress achieved in the 1920s was soon rolled back by the Great Depression of the early

1930s and its disastrous aftermath. There is broad agreement among historians that the recession of 1929 was transformed into the Great Depression mainly because of a series of monetary and fiscal policy blunders. These financial mistakes were exacerbated by the spread of "beggar-thy-neighbour"⁶ trade strategies, as countries tried to insulate themselves from shrinking demand and growing unemployment by raising import barriers and carving out preferential export markets, resulting in the collapse of international trade and the rise of trade frictions (Irwin et al., 2008).

Some of these trade blocs were defensive. In 1930, the Netherlands, Denmark, Norway and Sweden tried to shield themselves from the worst of the growing economic crisis with the creation of the Dutch-Scandinavian Economic Pact,⁷ while two years later Britain and its colonies agreed to a system of "Imperial Preferences" which gave preferential tariff treatment to one another's trade – signalling the end of Britain's commitment to non-preferential open trade which had existed for over 100 years. Other blocs were more hostile. After 1936, Germany moved to create its own restrictive trade bloc as part of its drive for economic self-sufficiency and resource security – by concluding a network of bilateral agreements with Southern and Eastern European countries. This had the effect of orienting these countries' trade towards Germany and away from the rest of the world (Braun, 1990). At the same time, Japan was building its Greater East Asian co-prosperity sphere – explicitly aimed at creating a self-sufficient "block of Asian nations led by the Japanese and free of Western Powers" (William, 2000).

One bright spot was the decision of the United States to embark on a cautious policy of trade liberalization three years after implementing its 1930 Hawley-Smoot Tariff Act, which had raised US tariffs on imported goods to record levels. The move towards liberalization signalled for the first time its future leadership of the global trading system. In 1934, Congress enacted the Reciprocal Trade Agreement Act, which gave the new Roosevelt administration authority to negotiate bilateral tariff reduction agreements (based on an unconditional MFN clause) in concert with other countries. With this authority, originally granted for three years and subsequently renewed, the government concluded more than 20 trade agreements in the 1930s, initially with Latin American countries, but later with Britain and Canada (Irwin et al., 2008). These bilateral agreements probably only had a marginal effect on world trade during this chaotic period, but more importantly they signalled a new liberal direction in US trade policy, and laid the foundations for much of the GATT system after the Second World War.

(d) Most-favoured nation and the birth of the GATT

The foundations of the modern multilateral trading system were laid in the years immediately after the Second World War. This was a period favourable for

large advances to be made in international trade liberalization and cooperation. The United States had emerged from the war as the unquestioned economic superpower, and it had strong commercial and foreign policy reasons for pushing the international system in the direction of multilateralism. Moreover, the wartime victors, especially Britain and the United States, largely agreed on the root causes of the political and economic chaos of the inter-war period, and wanted to construct an international economic system that would prevent a return to the financial instability and trade bloc rivalry that had led to the outbreak of war (Brown, 2003).⁸

The Bretton Woods Conference in 1944 envisaged the creation of three new international economic institutions that would form the pillars of a new world economic order: the International Monetary Fund (IMF), which would maintain exchange rate stability, the International Bank for Reconstruction and Development, or the World Bank, which would provide reconstruction capital for war-torn countries, and the International Trade Organization (ITO), which would oversee the administration of an open and non-preferential multilateral trading order. Although the IMF and World Bank came into being, the ITO was “stillborn”, mainly because of concerns in the US Congress about a loss of sovereignty to the proposed trade body (Trebilcock and Howse, 1995). Countries returned to the provisional GATT agreement that had already been negotiated among 23 “contracting parties” in 1947, and which was to provide the foundation for an expanding multilateral trade system until it was subsumed by the WTO in 1995.

Although there was a shared vision about the post-war trading system – especially the need to lower tariffs and to discipline any forms of discrimination – Britain and the United States clashed over how the new architecture could be reconciled with existing regional arrangements. A major source of friction – which surfaced repeatedly during wartime and post-war economic negotiations – was Britain's desire to preserve its system of “Imperial Preferences”. The US Secretary of State, Cordell Hull, was critical of the adverse effects of Imperial Preferences on United States' exports to Britain and Canada, two of America's most important markets. The State Department tried to dismantle them, first during negotiations over the terms of the so-called “Lend Lease” programme in 1941, and later in successive meetings between 1943 and 1948 to discuss post-war trade architecture.

Britain was just as determined to hold the line on Imperial Preferences. Although some policy makers wanted a return to Britain's traditional open trade leadership after the war, the majority, including renowned economist J.M. Keynes, were more cautious, and wanted to maintain both Imperial Preferences (seen as an essential underpinning of the Empire) and the freedom to use import controls (seen as key to government economic planning and to Keynesian “demand management”)

(Irwin et al., 2008). Complicating matters was the fact that the United States' position on preferential trade was not entirely unambiguous. One reason they ultimately agreed to accept an exemption for preferential regional trade blocs in the new GATT, embodied in Article XXIV (they initially wanted an exemption from non-discrimination for customs unions only, not free trade agreements), was its support for nascent plans for European integration.

British and American officials also differed initially over the negotiating mechanism for achieving more open trade. Whereas the British proposed sweeping, across-the-board horizontal tariff reductions on a uniform and non-selective basis, the Americans pressed for – and eventually won agreement on – a less ambitious approach which more closely resembled their pre-war Reciprocal Trade Agreement Act (RTAA) negotiations. The outcome was a “multilateral-bilateral” hybrid in which tariffs would be cut in bilateral negotiations, and then multilateralized through the MFN principle, in line with the pre-war RTAA approach (Irwin et al., 2008).

Even the basic principles of the resulting GATT reflected earlier bilateral models and approaches. Much of its language was borrowed directly from the RTAA arrangements, which in turn had taken their core principles of reciprocity, non-discrimination and national treatment from nineteenth-century Europe's network of bilateral agreements. A major change was that the new GATT subsumed this bilateral architecture in a single multilateral convention, both reflecting and reinforcing the commitment among members to wider trade cooperation than had existed at any time in the past. The biggest change represented by the new GATT was that multilateralism (and MFN) for the first time became the foundation or default, not the alternative, for international trade relations.

(e) The modern era: three new “waves” of regionalism

Creation of the GATT did not diminish the attraction of bilateral or regional approaches to international trade relations. On the contrary, the push for new regional agreements, especially in Europe, re-emerged less than five years after the GATT was launched, ushering in a long period of creative tension between regionalism and multilateralism, and paving the way for dramatic advances in both approaches. If the mid-nineteenth century marked the first major phase of regionalism, the last 60 years have witnessed three additional phases or “waves”. Each has been driven, at least in part, by a perceived need among groups of countries to go “further and faster” than the broader GATT system in order to manage “deeper” trade integration (Carpenter, 2009).

Although the widening and deepening of the European Union has been at the centre of each successive wave of regionalism, North America and now Asia have also

joined the race. At the same time, each wave has tended to coincide with – or be immediately followed by – significant advances in GATT negotiations, leading some to argue that there is a process of competitive liberalization, or “domino effect”, not just among the various regional agreements, but more fundamentally between regionalism and multilateralism.

The first wave of regionalism occurred in the late 1950s and 1960s. At its centre, was Europe's push for continental integration – starting with the sectoral European Coal and Steel Community in 1951, leading to the broader European Economic Community (EEC) in 1957, and building outwards to current or past colonial possessions through a complex network of preferential, but non-reciprocal trade arrangements (Winters, 1993). This evolving European Community helped spark the creation of the rival European Free Trade Association (EFTA) in 1957 among countries that had chosen to stay outside the Community. The EEC was also taken as a model by groups of developing countries in Africa, the Caribbean, Central and South America which rushed to form their own regional and subregional unions during this period. However, most of these arrangements – including even the most promising, the East African Community and the Central American common market – had collapsed or drifted into abeyance by the end of the 1970s (de Melo and Panagariya, 1993).⁹

At the same time, Europe's integration triggered pressure for progress at the multilateral level, as other countries sought to mitigate the effects of European preferential trade by lowering MFN tariffs across the board. The launch of the Dillon Round of trade negotiations in 1960 was prompted in part because the adoption of the EEC's common external tariff required the renegotiation of certain members' bound tariff rates (i.e. the upper limit for members' tariff rates) – a process which encouraged these members to seek reciprocal tariff reductions from trade partners in a broader multilateral context. Likewise, the more ambitious Kennedy Round between 1964 and 1967 coincided with negotiations to expand the EEC to include Britain, Ireland, Denmark, Greece and Norway – and was motivated in part by US concerns about being excluded from an ever-broader and more unified European market (Anderson and Blackhurst, 1993). Thus, GATT tariff cutting and membership enlargement moved in tandem with the widening and deepening of Europe's integration project, as well as with other regional initiatives

The second wave of regionalism began roughly in the mid-1980s and extended well into the 1990s. Once again Europe's drive to expand and deepen its economic integration was a central impetus. The mid-1980s saw Europe embark on its “single market” programme, aimed at dismantling the remaining physical, technical and tax barriers within the community by 1992 – a transformation marked by the organization changing its name from the EEC to the

European Community (EC) with the passage of the Maastricht Treaty in 1993. The EC was also pushing to create a new cluster of bilateral PTAs with Central and Eastern European countries¹⁰ following the break-up of the Soviet Union and the dissolution of the Council for Mutual Economic Assistance (COMECON) (Lester and Mercurio, 2009). These latter agreements were focused on reducing tariffs, creating uniform rules of origin (RoOs), and developing EC-consistent regulatory approaches to services, standards, and transition rules in sectors such as agriculture. Their overarching aim was to pave the way for the admission of ten new countries (eight Central and Eastern European countries and two Mediterranean countries) into the EU in 2004, and two additional ones (Bulgaria and Romania) in 2007.

In the mid-1990s, the EU also concluded a number of bilateral agreements with countries in the Middle East – (with Israel, Jordan, Lebanon and the Palestinian Authority) and North Africa (with Algeria, Egypt, Morocco and Tunisia) with the intention of forming an open trade area similar to the North American Free Trade Agreement (NAFTA) (Fiorentino et al., 2007).

Europe was not alone in this approach. This time, the momentum behind regionalism also came from the United States, partly because of its ongoing concerns about the EC's expansion, and partly because of its frustration with delays in launching and then advancing the Uruguay Round negotiations (Fiorentino et al., 2007). Having eschewed regionalism in favour of multilateralism for almost 40 years, the United States suddenly shifted strategies, embarking on an ambitious programme of bilateral negotiations that included, first, a free trade agreement with Israel in 1985, and then, more dramatically, the Canada-US Free Trade Agreement in 1988, later trilateralized to include Mexico in NAFTA in the early 1990s (Anderson and Blackhurst, 1993). Much of the “new” trade policy agenda that the United States had been seeking in the multilateral arena – such as investment, services trade, intellectual property rights, and government procurement – was incorporated first in these bilateral and regional talks, and then taken up in the Uruguay Round negotiations.

As with the previous wave of regionalism, this newest one had a demonstration effect, as groups of developing countries moved to establish and strengthen their own regional groupings. In Latin America, old integration arrangements, such as the Central American Common Market and the Andean Community, were revived in an effort to build a broader and more ambitious Latin American Common Market, effectively mirroring North America's and Europe's own pan-continental projects. Even more ambitious was the MERCOSUR (Southern Common Market) project. Envisaged as a full customs union among Argentina, Brazil, Paraguay and Uruguay, MERCOSUR was perhaps the most prominent example of a new generation of “developing-developing country” PTAs. It

reflected a desire partly to strengthen political relations between Argentina and Brazil, partly to counterbalance other emerging continental integration agreements, and partly to create a stronger and more unified trade policy voice for the partner countries in the multilateral system (Mansfield et al., 2000).

In Africa too, initiatives were launched to revitalise existing regional groupings and to form new ones – such as the Common Market for Eastern and Southern Africa (COMESA), the East African Community (EAC), the Economic Community of West African States (ECOWAS) and the Southern African Development Community (SADC) – with the objective of accelerating industrialization, diversifying economies, developing regional infrastructure, encouraging the adoption of common negotiating positions, and promoting peace and security on the continent. In particular, COMESA was seen as a step towards the realization of an African Economic Community, while SADC represented an effort to reintegrate South Africa into the post-apartheid regional economy (Hwang, 2007).

In Asia, regionalism gathered pace as well. The Association of Southeast Asian Nations (ASEAN) embarked on plans for an ASEAN Free Trade Area (AFTA), in order to strengthen the resilience of ASEAN member countries to economic crises and to enhance cooperation in non-traditional trade areas, such as science and technology, agriculture, financial services and tourism (an extended discussion of the role of international production networks appears in Section D.3). The South Asian Association for Regional Cooperation was also created at this time – in part to try to reduce political tensions between India and Pakistan (Dash, 1996) – later transformed into the South Asian Free Trade Area (SAFTA).

Most ambitious of all, the Asia Pacific Economic Cooperation (APEC) was launched in 1989 with the goal of “pursuing free and open trade and investment” among its founding 12 members on a non-preferential (i.e. “open regional”) basis (Pomfret, 2006).¹¹ Around the same time, Australia and New Zealand deepened their free trade area into the Closer Economic Relations (CER). Proponents typically argued that these agreements represented new forms of regionalism – justified on the grounds that members could go “further and faster” in areas of deeper integration than was feasible in the wider and slower GATT system. Another common rationale was concerns about the slow pace of the Uruguay Round and the rise of other rival regional trade blocs.

Indeed, as with the previous wave, progress at the multilateral level coincided with – and, some argue, benefited from – this second wave of regionalism. After several failed attempts, the Uruguay Round was launched in 1986, including for the first time a negotiating mandate on services, intellectual property and, to a more limited extent, investment. Despite

concerns about the GATT being eclipsed by regional deals – or because of them – the Uruguay Round was successfully concluded in 1994, crowned with the creation of the WTO, effectively taking some of the energy out of this second wave of regionalism.

Over the past decade, another wave of regionalism has been gathering force, driven as before by key trade powers, such as the EU and the United States, but for the first time also including many Asian countries that had previously been the strongest supporters of multilateralism and non-discrimination. Their conversion to regionalism can be traced in part to the international community's inadequate reaction to the collapse of Asian trade following the Asian financial crisis in 1997, the high-profile collapse of the WTO's Seattle Ministerial Conference in 1999, and the diminishing significance of pan-Pacific initiatives, especially the APEC Forum (Aggarwal and Koo, 2005). Even more importantly, the proliferation of regional agreements in Asia also appears to reflect and reinforce an underlying process of deep economic integration. This was caused by countries being woven ever more tightly together by the trade and investment flows associated with regional and subregional production networks.

Key Asian countries that have launched (and concluded) bilateral negotiations include Japan, the Republic of Korea, Singapore, China and India (Katada and Solis, 2008). Even AFTA concluded bilateral agreements with major Asian economies, such as Japan and China (Lester and Mercurio, 2009). During the same period, the United States launched bilateral negotiations and concluded agreements with a range of countries, including Jordan, Bahrain, Chile, Morocco, Singapore, Australia, Oman, Peru, Panama, Colombia and the Republic of Korea (Pomfret, 2006).

This most recent “wave” of regionalism covers a much wider network of participants – including bilateral, plurilateral and cross-regional initiatives – and encompasses countries at different levels of economic development – including “developed-developed”, “developing-developing”, and “developed-developing” alliances. And although these new agreements, like previous PTAs, also involve preferential tariff reductions, they focus even more on WTO-plus type issues, such as services, capital flows, standards, intellectual property, regulatory systems (many of which are non-discriminatory) and commitments on labour and environment issues.

As these agreements grow more comprehensive and complex – as rule-making moves beyond the reduction of border barriers into the challenges of “deeper” policy integration – they have begun to blur the meaning of discrimination. For example, the non-discriminatory harmonization of regulatory standards in these new regional agreements can have a “preferential” effect when it effectively creates a regional regulatory “bloc” that benefits insiders more

than outsiders. Conversely, the liberalization of certain services regulations in a “discriminatory” regional agreement can have a non-preferential effect when regulatory changes necessarily benefit all foreign suppliers, not just the partners to the agreement.

Some trade experts take a pessimistic view of the latest explosion of PTAs, arguing that there is a link between the surge of bilateral and regional deals and the slow pace of the Doha Round (Bhagwati, 2008). Others are more optimistic, suggesting the proliferation of bilateral and regional deals will eventually, as in the past, have a domino effect, and force the pace of the Doha negotiations. Still others argue that there is no correlation or causal link between the pace of multilateralism and regionalism, pointing to the fact that regional initiatives did not “take off” when the Uruguay Round stalled between 1990 and 1994, and only accelerated after the Round’s conclusion in 1994 (Freund, 2000). In fact, there is evidence that recent regional and multilateral initiatives have actually advanced in tandem. This adds weight to the view that they can, and do, represent complementary aspects of an increasingly complex and sophisticated global trade architecture – one in which bilateral, regional and multilateral agreements coexist and cohere in a kind of “multi-speed” or “variable geometry” system.

2. The evolution of PTAs: stylized facts

In order to identify relevant patterns in the evolution of the PTA landscape, this section sets out to classify PTAs according to a range of criteria. The main purpose of these classifications will be to characterize trends in the creation of PTAs and changes in their nature over time. By looking at several PTA characteristics together, it may also be possible to consider the extent to which certain PTA attributes may be linked with one another. Possible ways to categorize PTAs include classification by:

- level of development (participation of developed or developing countries only or of both developed and developing countries);
- geographical coverage (intra- or cross-regional PTAs) within/across regions, e.g. Asia (East, West, Oceania), the Americas (North, South, Central, Caribbean), Europe, Middle East, Africa and the Commonwealth of Independent States (CIS);
- type (bilateral, plurilateral PTAs or PTAs between regional blocs);
- degree of market integration (e.g. FTA, customs union) and issue coverage (e.g. goods, services, regulatory issues).

Characterizing PTAs in this way allows us to highlight a range of stylized facts.¹² The WTO’s database on PTAs

is the primary source of information for this analysis.¹³ It consists of all PTAs notified to the WTO and the GATT (notifications under GATT Article XXIV, Enabling Clause and General Agreement on Trade in Services Article V), both those that are currently in force and those that are inactive. The database also contains information on PTAs that have not yet been notified to the WTO, but for which an early announcement has been made.

WTO statistics on active PTAs, based on notification obligations, tend to overestimate the total number of PTAs for two reasons. First, for a PTA that includes both goods and services, the database contains two notifications – one for goods and another for services.¹⁴ Second, the database counts accessions to existing PTAs as new notifications. Hence, the number of “physical” agreements equals the total number of notified active PTAs minus Economic Integration Agreements (EIA) in services and accessions to existing PTAs. Another weakness in the current WTO database stems from the non-notification of more than 100 active PTAs among developing countries. Hence, for the purpose of this analysis, the database is supplemented by information available from other publicly available sources.¹⁵

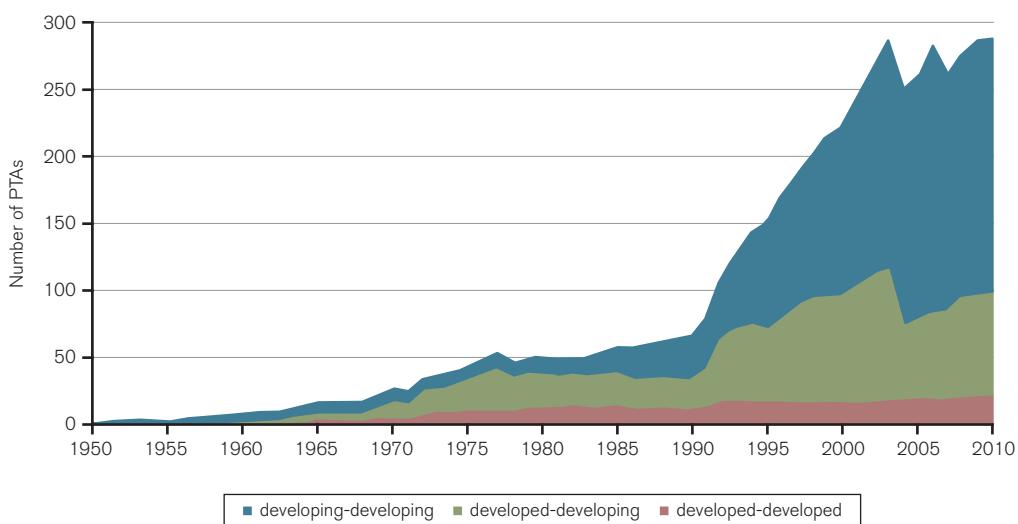
(a) Level of development

PTA participation has accelerated over time and become more widespread. From the 1950s onwards, the number of active PTAs increased more or less continuously to almost 70 in 1990. Thereafter, PTA activity accelerated noticeably, with the number of PTAs more than doubling over the next five years and more than quadrupling until 2010 to reach close to 300 PTAs presently in force (see Figure B.1). The rise in the absolute number of PTAs shown in Figure B.1, and its acceleration from the early 1990s onwards, is not really surprising in light of the fact that an increasing number of countries have turned towards outward-oriented policies and experienced strong economic growth. This multiplied the demand for trade agreements compared with previous time periods that were dominated by inward-looking development strategies and low economic performance.

Bergstrand et al. (2010) show that countries with higher gross domestic products (GDPs) are more likely to conclude trade agreements and that increased PTA activity reinforces the demand for further trade agreements by outsiders. However, the surge in PTA activity is not merely driven by the “extensive margin”, i.e. by a growing number of countries taking an interest in reciprocal trade opening. A similar picture emerges when the evolution in the number of PTAs per country is considered, i.e. the increase in PTA activity at the “intensive margin” (see Figure B.1a).

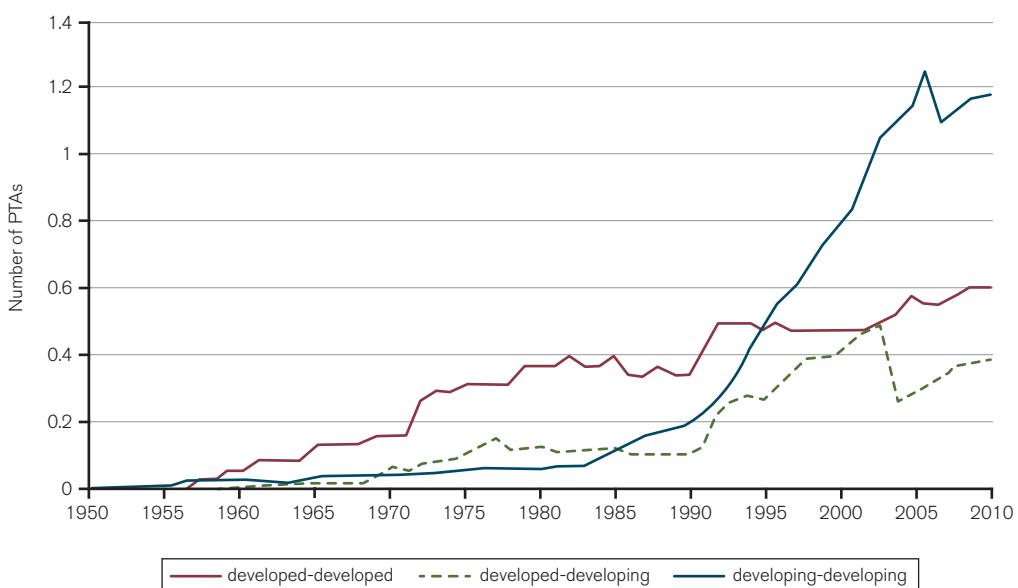
Only about two-thirds of the agreements currently in force have been notified to the WTO. The overall picture of highly dynamic PTA activity in recent times does not change when only notified agreements are taken into

Figure B.1: Cumulative number of PTAs in force, 1950-2010, notified and non-notified PTAs, by country group



Source: WTO Secretariat.

Figure B.1a: Average number of PTAs in force per country, 1950-2010, notified and non-notified PTAs, by country group



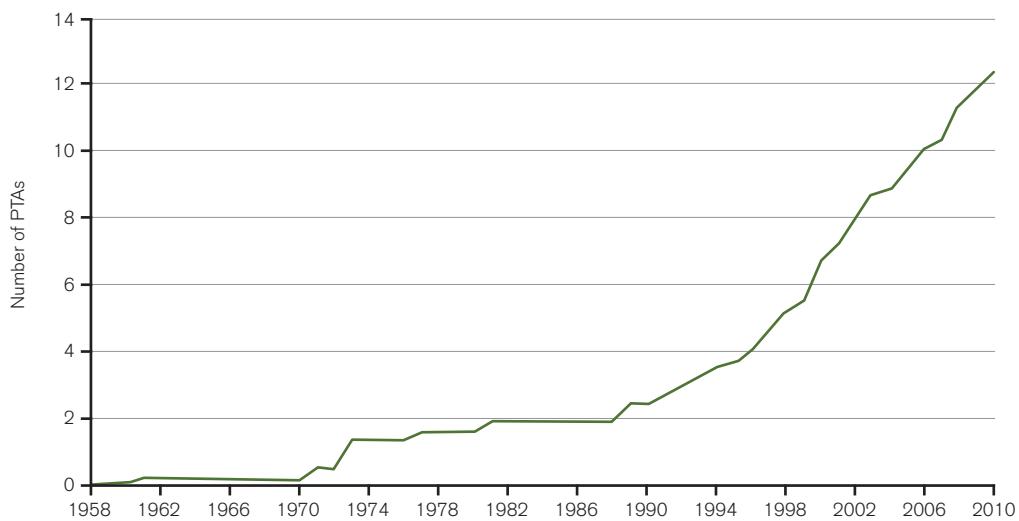
Note: In this figure the total number of PTAs is divided by the present number of countries in the respective groups.

Source: WTO Secretariat.

account. The intensification of PTA activity since the early 1990s becomes particularly apparent when the average number of PTA participants per WTO member is considered. This number has risen from an average of about two PTA trading partners in 1990 to over 12 at the present date (see Figure B.1b).¹⁶ The various factors that might prompt countries to create PTAs and questions of timing are discussed in more detail in Section C, while examples of the specific reasons leading to the conclusion of PTAs have been given in the historical discussion in Section B.1.

Developing countries have contributed in no small part to the recent hike in PTA activity. Their participation in PTAs evolved from continuous growth in the number of preferential arrangements with developed countries to an accelerating pattern of agreements between developing countries (South-South agreements) (see Figures B.1 and B.1a). From the late 1970s, when agreements between developed and developing countries (North-South agreements) represented almost 60 per cent of all PTAs in force and South-South PTAs barely 20 per cent, these two shares have

Figure B.1b: Average number of PTA participants per WTO member, 1958-2010, notified PTAs



Note: These figures include both GATT/WTO member and non-member trading partners in the context of PTAs per current WTO members (153).

Source: WTO Secretariat.

evolved in opposite directions, with South-South now representing two-thirds of all PTAs in force and North-South about one-quarter.

From the 1960s onwards, the share of PTAs between developed countries (North-North agreements) hovered more or less around 30 per cent before its continuous decline from the mid-1980s to barely 10 per cent today. However, Figure B.1a shows that on average a developed country still participates in more PTAs with other developed countries than with developing countries. This gap has been closing since the 1990s, but there was a statistical correction in 2004 owing to the enlargement by ten new members of the EU.¹⁷

These numbers are not only a reflection of the increasing participation of developing countries in world trade. They also underscore the shift of interest of developing countries from preferential tariffs provided on a unilateral basis by developed countries, for instance in the context of the Generalized System of Preferences (GSP), towards South-South trade supported by preferential trading relationships. The emergence of South-South integration may also reflect its usefulness as a policy tool for industrialization by facilitating the inclusion of least-developed countries (LDCs) into regional production networks and hence into the export process. South-South integration also provides a means of strengthening developing countries' bargaining power in multilateral trade negotiations (Wignaraja et al., 2010a) and of addressing region-specific issues, such as transit, migration and water (World Bank, 2005).

A different (and probably misleading) picture emerges if only PTAs notified to the WTO are considered. Acharya et al. (2011) find the opposite trend, where

PTAs concluded among developing countries rose in the 1990s, only to seem to slow over the last ten years, while PTAs between developed and developing countries have shown a marked increase over the last decade. The reason for this is that about 100 active PTAs among developing countries, most of which are fairly recent, have not been notified to the WTO.

The numbers in Figure B.1 are based on the year when a PTA entered into force, yet these agreements were negotiated and signed some time beforehand. Delays in entry into force occur because ratification or approval by Parliament is required and can sometimes take longer than initially planned. This implies that full access to partner markets is postponed and economic conditions may change and affect the anticipated benefits at the time of signature. On average, once a PTA is signed, it enters into force in the following year, with no major differences in delays between agreements involving only developed, or only developing, countries.

Although an agreement may enter into force for all partners at the same time, not all participating countries open their markets to the same extent and according to the same time schedule. Such transition times may allow countries and industries to undertake the necessary adjustment measures. Having transition periods of varying length is common in developed-developing country PTAs, but also among developing countries if levels of development differ substantially. For example, within AFTA, Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore and Thailand (ASEAN-6) have brought down more than 99 per cent of the products in the Common Effective Preferential Tariff Scheme Inclusion List to the 0-5 per cent tariff range. However, Cambodia, Lao People's

Democratic Republic, Myanmar and Viet Nam have so far moved about 80 per cent of their products into their respective Common Effective Preferential Tariff Scheme Inclusion Lists, of which about 66 per cent have tariffs within the 0-5 per cent tariff band.

Viet Nam was given until 2006 to bring down the respective tariffs of products in the Inclusion List to no more than 5 per cent duties, Laos and Myanmar until 2008 and Cambodia until 2010.¹⁸ Unfortunately, data on country-specific transition periods until full implementation of commitments are not systematically collected in the PTA databases mentioned above. Dent (2006) notes, however, that such transition periods on average have become shorter over time, from around ten years in the mid-1980s to less than four years a decade later.

There is considerable diversity in the total and average numbers of agreements within and across regions (see Table B.1). Europe is leading in terms of absolute numbers of PTAs for both agreements within its own region and with other regions. By contrast, African countries, despite their relatively large numbers of agreements within Africa and with other regions, do not even count one PTA per country either within Africa or across regions. In particular, their cross-regional country average is significantly lower than almost all other regions. For cross-regional agreements, the numbers in both absolute and average terms are particularly high for North, South and Central America. Among Asian countries, despite their increasing economic importance and regional production structures, the average number of PTA memberships is still well below the averages in the

Western Hemisphere for cross-regional agreements and below, for instance, the CIS average for intra-regional agreements.¹⁹

One reason for this is that countries in Asia have only recently become more active in signing PTAs. Over the last ten years, countries in East and West Asia as well as Oceania have participated in almost half the PTAs concluded over that period (more than, for instance, European and CIS countries, which participated in about one-third of agreements), while their participation in PTA activities in the 1990s barely reached 5 per cent (only six out of 106 agreements). The high overall activity in the 1990s was largely due to the dissolution of the former Soviet Union and the establishment of new trading relationships in Europe and within the CIS, which at that time accounted for almost 50 per cent of new PTAs.

All WTO members (with the exception of Mongolia) belong to at least one PTA. Map B.1 shows the level of participation in PTAs for countries/territories around the globe. The EU participates in the largest number of agreements (30), followed by Chile (26), Mexico (21), EFTA members (between 20 and 22), Singapore (19), Egypt (18) and Turkey (17). Other emerging economies, such as Brazil (13), India (12) and China (10) are not too far behind. Asian countries, however, show increasing PTA activity, with Singapore and India concluding a majority of their agreements, 17 out of 19 and 10 out of 12 agreements, respectively since 2000. The contrast is even starker for latecomers, such as China and Japan, all of whose agreements have entered into force since 2000.

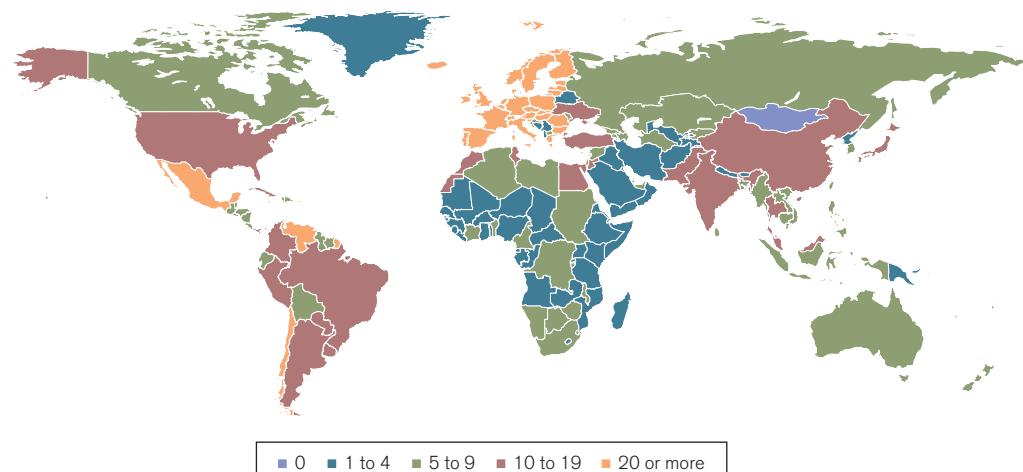
Table B.1: Total and average number of PTAs in force, 2010, notified and non-notified PTAs, by region, regional type and country group

| | Africa (58) | CIS (12) | Europe (40) | South America (12) | Central America (7) | Caribbean (24) | West Asia (8) | Middle East (13) | Oceania (30) | East Asia (19) | North America (5) |
|-----------------------|-------------|----------|-------------|--------------------|---------------------|----------------|---------------|------------------|--------------|----------------|-------------------|
| Intra-regional | Total | 24 | 29 | 36 | 13 | 7 | 0 | 7 | 7 | 5 | 17 |
| | Avg/country | 0.4 | 2.4 | 0.9 | 1.1 | 1.0 | 0.0 | 0.9 | 0.5 | 0.2 | 0.9 |
| Cross-regional | Total | 31 | 4 | 42 | 52 | 34 | 19 | 14 | 30 | 10 | 34 |
| | Avg/country | 0.5 | 0.3 | 1.1 | 4.3 | 4.9 | 0.8 | 1.8 | 2.3 | 0.3 | 7.4 |
| Developed-Developed | Total | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| | Avg/country | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.4 |
| Developed-Developing | Total | 12 | 2 | 41 | 11 | 3 | 3 | 1 | 15 | 11 | 22 |
| | Avg/country | 0.2 | 0.2 | 1.0 | 0.9 | 0.4 | 0.1 | 0.1 | 1.2 | 0.4 | 3.6 |
| Developing-Developing | Total | 43 | 31 | 16 | 54 | 38 | 16 | 20 | 22 | 2 | 28 |
| | Avg/country | 0.7 | 2.6 | 0.4 | 4.5 | 5.4 | 0.7 | 2.5 | 1.7 | 0.1 | 3.6 |

Note: The number of countries considered per region is given in brackets.

Source: WTO Secretariat.

Map B.1: Membership in PTAs in force, 2010, notified and non-notified PTAs, by country



Source: WTO Secretariat.

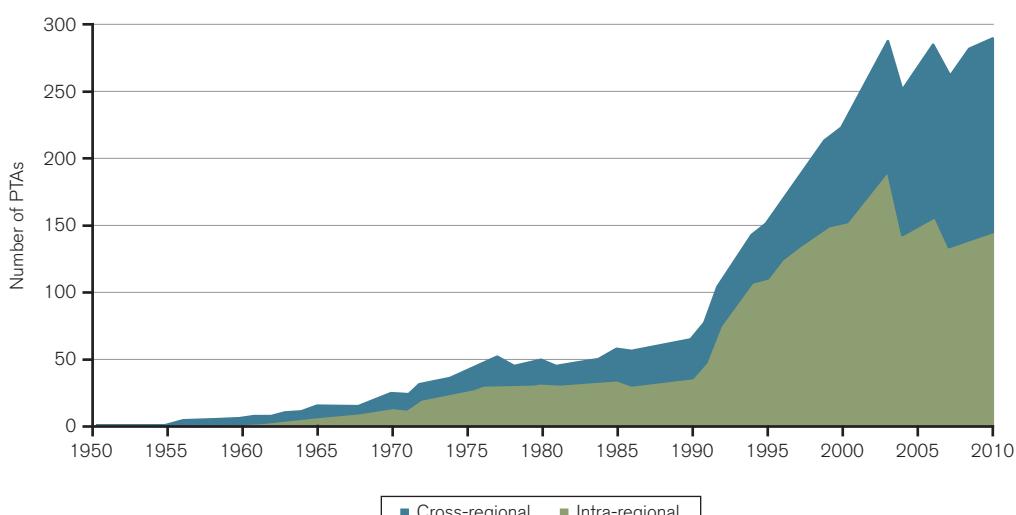
Increased PTA activity, however, is not just found in the Asian region. Further afield, the United States has also become more active, concluding 9 of its 11 agreements since 2000. In this regard, the numbers of recently signed PTAs (but not yet in force) and of those currently under negotiation are quite telling as well.²⁰ Despite its dominant position among existing PTAs, the EU continues to widen its range of partners, with another 17 agreements signed or currently under negotiation. Traditionally active countries, such as Singapore, the United States and Chile, continue to negotiate new PTAs (nine, eight and six respectively under negotiation or signed). In addition, a range of "newcomers" to the PTA scene are currently engaged in a substantial number of negotiations. This is especially true for the Gulf Cooperation Council countries (15 agreements, with the United Arab Emirates also currently negotiating

an agreement with the United States), but also for Canada, China, India and the Republic of Korea (nine each), Australia (eight) and Thailand (six).

(b) Geographical coverage

PTA activity has transcended regional boundaries. The term "regional trade agreements" (RTAs) and "preferential trade agreements" (PTAs) are often used interchangeably in the literature, and the rise of "regionalism" is often referred to in order to describe the spread in PTA activity discussed in the previous subsection. However, one half of PTAs currently in force are not strictly "regional", in that they include countries from other geographical areas, according to the regional definitions commonly employed in the WTO context (see Figure B.2). This development is in

Figure B.2: Cumulative number of intra- and cross-regional PTAs in force, 1950-2010, notified and non-notified PTAs



Source: WTO Secretariat.

marked contrast to just over ten years ago, when activity within a region was dominant. The trend towards a broader geographical scope of PTAs is even more pronounced for those PTAs that are currently under negotiation or have recently been signed (but are not yet in force), practically all of which are cross-regional. The advent of cross-regional PTAs may

reflect the fact that several prospects of agreements within a region have already been exhausted (Fiorentino et al., 2007).

Table B.2 shows the number of agreements within a region and across regions for each regional group and partner group. Table B.3 indicates how the numbers for

Table B.2: “Network” of PTAs in force, 2010, notified and non-notified PTAs, by region

| | Africa | CIS | Europe | South America | Central America | Caribbean | West Asia | Middle East | Oceania | East Asia | North America |
|-----------------|--------|-----|--------|---------------|-----------------|-----------|-----------|-------------|---------|-----------|---------------|
| Africa | 24 | - | - | - | - | - | - | - | - | - | - |
| CIS | 0 | 29 | - | - | - | - | - | - | - | - | - |
| Europe | 16 | 4 | 36 | - | - | - | - | - | - | - | - |
| South America | 3 | 0 | 6 | 13 | - | - | - | - | - | - | - |
| Central America | 1 | 0 | 2 | 19 | 7 | - | - | - | - | - | - |
| Caribbean | 2 | 0 | 3 | 16 | 11 | 0 | - | - | - | - | - |
| West Asia | 4 | 1 | 3 | 4 | 1 | 1 | 7 | - | - | - | - |
| Middle East | 13 | 1 | 12 | 3 | 1 | 1 | 4 | 7 | - | - | - |
| Oceania | 1 | 0 | 1 | 3 | 0 | 1 | 0 | 0 | 5 | - | - |
| East Asia | 3 | 0 | 5 | 8 | 6 | 1 | 9 | 3 | 7 | 17 | - |
| North America | 4 | 0 | 6 | 16 | 9 | 4 | 2 | 7 | 2 | 5 | 1 |

Source: WTO Secretariat.

Table B.3: Intra- and cross-regional PTAs in force, 2010, notified and non-notified PTAs, by region and time period

| | Africa | CIS | Europe | South America | Central America | Caribbean | West Asia | Middle East | Oceania | East Asia | North America |
|---------|----------------|-----|--------|---------------|-----------------|-----------|-----------|-------------|---------|-----------|---------------|
| 1950-59 | Intra-regional | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Cross-regional | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1960-69 | Intra-regional | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | Cross-regional | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1970-79 | Intra-regional | 1 | 0 | 5 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| | Cross-regional | 2 | 0 | 3 | 3 | 1 | 2 | 2 | 1 | 2 | 2 |
| 1980-89 | Intra-regional | 5 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 0 | 0 |
| | Cross-regional | 1 | 0 | 1 | 11 | 9 | 4 | 1 | 0 | 1 | 6 |
| 1990-99 | Intra-regional | 12 | 25 | 10 | 9 | 0 | 0 | 2 | 1 | 2 | 1 |
| | Cross-regional | 11 | 1 | 12 | 10 | 8 | 3 | 1 | 14 | 0 | 8 |
| 2000-10 | Intra-regional | 3 | 4 | 17 | 3 | 5 | 0 | 5 | 1 | 15 | 0 |
| | Cross-regional | 17 | 3 | 26 | 28 | 16 | 10 | 10 | 9 | 31 | 21 |

Source: WTO Secretariat.

each region have developed over time. While Europe has a strong focus on intra-regional agreements, it has also followed the recent trend towards more cross-regional integration, notably with Africa and the Middle East. By contrast, CIS countries have so far confined their PTA activities to other countries in the CIS region. Similarly, African countries feature a considerable number of agreements with other African countries, but have engaged in only a few PTAs with countries in the Americas and Asia. Over time, however, it is interesting to note that while African countries in the 1990s were active in regard to PTAs within Africa, the reverse is true in the last decade. The African countries belonging to the Africa, Caribbean and Pacific (ACP) grouping have signed a series of Economic Partnership Agreements (EPAs) with the EU. The EPAs are a key element of the Cotonou Agreement, which is the latest agreement in the history of ACP-EU development cooperation. Perhaps not surprisingly, many cross-regional agreements are located in the Western Hemisphere, involving North, Central and South America as well as the Caribbean in various constellations. Also, the Western Hemisphere's cross-regional activity has received a major boost over the past ten years.

The situation is somewhat different in Asia, where despite some activity within Asia and across regions, the picture is more geographically dispersed and both types of activities took off only after 2000. For instance, in East Asia the number of PTAs with countries in West Asia and Oceania are quite similar to the number of agreements with Caribbean, South and Central American partners. As will be discussed further in Section C, these differences in the timing and orientation of PTAs are driven by a multitude of possible explanations. It is noteworthy that, for the moment, few PTAs involve

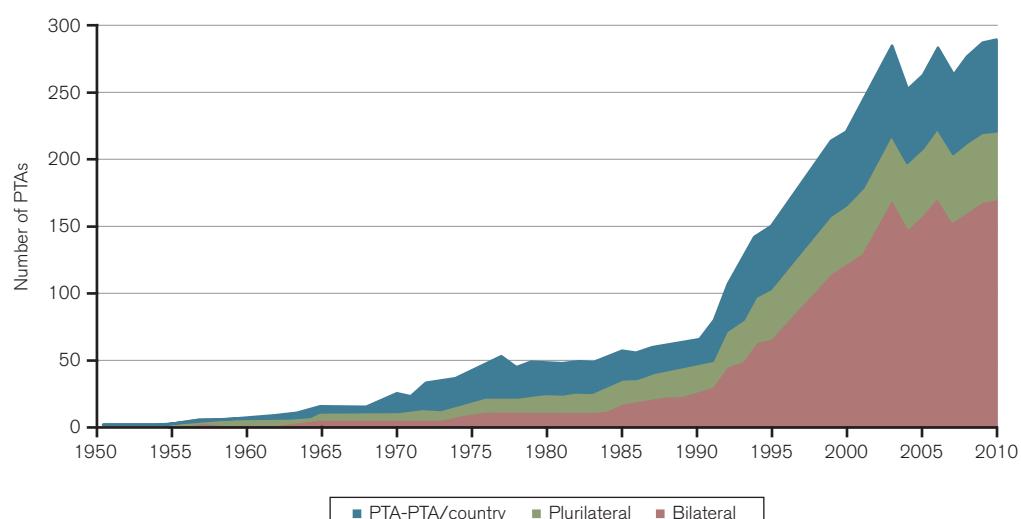
countries from more than two geographical regions, such as the recent PTA between the United States, Central American countries (within the Central American Free Trade Agreement) and the Dominican Republic in the Caribbean or the Trans-Pacific Strategic Economic Partnership Agreement which encompasses countries from East Asia, Oceania and South America, as well as countries from other regions currently negotiating to join.

(c) Types of PTAs

PTAs have seen opposing trends towards further rationalization on the one hand and a sprawling web of new bilateral and overlapping deals on the other. PTAs can be negotiated between two countries (bilateral), among several countries (plurilateral) or among one or several PTAs that have already been formed. Currently, two trends can be observed. On the one hand, there are growing instances of multiple bilateral agreements being consolidated into a plurilateral agreement or of an existing regional bloc negotiating on behalf of its members.

Figure B.3 shows that, apart from the 1970s, accessions to existing PTAs and new deals among PTAs have been particularly prominent in recent years. Examples are, of course, successive EU enlargements, but also the consolidation of bilateral pacts between Eastern European countries in the context of the Central European Free Trade Area (CEFTA) or the conclusion of a PTA between MERCOSUR and the Andean Community in the Latin American Integration Agreement framework.²¹ Acharya et al. (2011) document this move towards further consolidation by contrasting the cumulative number of active PTAs, which dropped in 2005 and 2007 following EU enlargement, with the spike in the number of notified PTAs that became

Figure B.3: Cumulative number of bilateral PTAs and types of plurilateral PTAs in force, 1950-2010, notified and non-notified PTAs



Note: "Bilateral" PTAs consist of two parties only, "plurilateral agreements" of three or more. The category "PTA-PTA/country" denotes PTAs, where an existing PTA has engaged in an agreement with another country, including through accession, or with another existing PTA.

Source: WTO Secretariat.

inactive in those years. From Table B.4 it is clear that further PTA formation by existing PTAs has mainly involved developed countries only so far, or both developed and developing countries, but has been less common among just developing countries, especially in relative terms compared with bilateral agreements.²²

On the other hand, there is a parallel trend beyond integration within a region towards a multitude of bilateral deals across the globe. Table B.4 reveals that cross-regional PTAs are to a large extent of a bilateral nature, while plurilateral deals are much more common within a region. In fact, Figures B.2 and B.3 illustrate that the doubling of cross-regional PTAs over the past decade has coincided with a similarly strong increase in the number of bilateral deals. As shown in Table B.4, many of these bilateral deals have been between developing countries, but large developed countries, such as the United States, have also been active in concluding bilateral PTAs with a range of countries, such as Australia, Bahrain, Morocco and Singapore.

Similarly, in East Asia, it has been both small and medium-sized countries, such as Singapore and Thailand, and larger ones, such as Japan (and more recently China), that have played a central role in this move towards increasing bilateralism (Aggarwal and Koo, 2005). One possible conclusion is that the recent proliferation of bilateral PTAs denotes a shift from the traditional concept of regional integration among neighbouring countries to partnerships driven by strategic (political and economic) considerations that are not necessarily related to regional dynamics.²³ It may also reflect the technical complexity of negotiating with a group of countries on a broad range of issues, such as factor mobility, investment, intellectual property rights and government procurement.

Finally, as noted above, the disproportionate increase in the number of bilateral PTAs may also reflect the fact that opportunities for region-wide plurilateral PTAs are fewer given the past waves of regionalism (Fiorentino et al., 2007). An important side effect of these developments is the increased fragmentation of trade relations related to countries' membership in multiple, sometimes overlapping PTAs. De la Rocha (2003) documents, for instance, that most countries in Eastern and Southern Africa belong to at least two

regional groups and that, in addition, many of them are involved in overlapping bilateral trade and investment agreements. For example, the author cites various members of SADC that entertain up to ten separate bilateral agreements with other SADC countries.

(d) Degree of market integration

The degree of market integration mostly stays at the FTA level and a number of products continue to be excluded from preferential access. Nevertheless, the coverage of PTAs in terms of issue areas has widened and deepened over time. The historical overview in Section B.1 noted the original intent of the drafters of the GATT to make an exception from non-discrimination for customs unions (CUs) rather than for FTAs that ultimately were covered as well by GATT Article XXIV. Over time, the number of CUs has certainly proven to be minor compared with the proliferation of FTAs. Figure B.4 shows that currently FTAs (not counting partial scope agreements and mere services agreements) account for three-quarters of all PTAs in force.²⁴ Among other things, countries may find it less desirable to form CUs as these require the establishment of a common external tariff and harmonization of external trade policies, and hence imply a much higher degree of policy coordination and a loss of autonomy over national commercial policies (Fiorentino et al., 2007).

Although, under GATT Article XXIV:8, duties are to be eliminated on substantially all the trade between participants in both FTAs and CUs, it is common that "sensitive" products are excluded from concessions.²⁵ In a study covering 15 bilateral agreements between four major economies – Canada, the European Union, Japan and the United States – and their major trading partners, Damuri (2009) shows that about 7 per cent of tariff lines in the sample, comprising around 11,000 products, are classified as "products excluded", either temporarily or permanently.²⁶ These products are concentrated in less than 15 per cent of the tariff lines covered in the negotiations and mainly fall in the agriculture and food sectors.²⁷

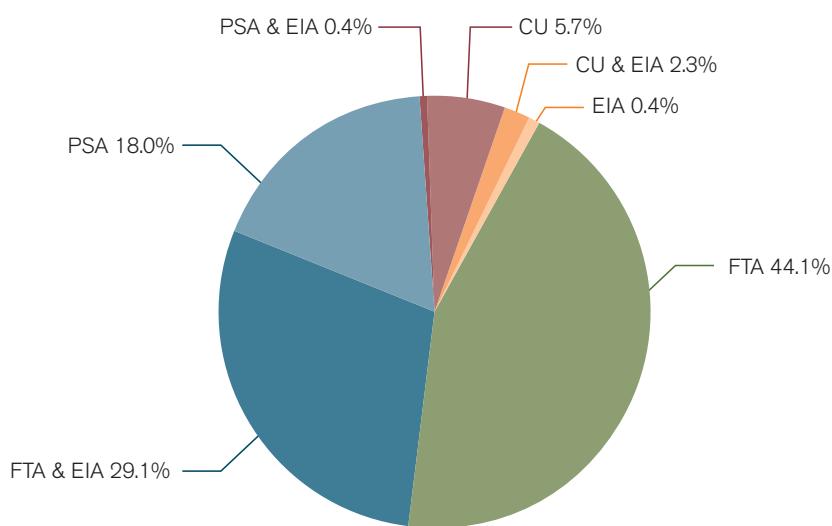
Damuri also highlights several factors related to the pattern of product exclusions, confirming the underlying political economy motivation of maintaining heightened protection for certain industries. As

Table B.4: Number of bilateral PTAs and types of plurilateral PTAs in force, 2010, notified and non-notified PTAs, by country group and regional type

| | Bilateral | Plurilateral | Plurilateral; at least one party is a PTA |
|-----------------------|-----------|--------------|---|
| Developed-Developed | 6 | 9 | 8 |
| Developed-Developing | 29 | 6 | 41 |
| Developing-Developing | 135 | 36 | 18 |
| Intra-regional | 81 | 39 | 26 |
| Cross-regional | 89 | 12 | 41 |

Source: WTO Secretariat.

Figure B.4: Type of PTAs in force, 2010, notified and non-notified PTAs



Note: As explained in the introduction, the term "preferential trade agreement" (PTA) is used in this report to denote reciprocal preferential agreements in general. For the purposes of this figure, we follow the classification in Acharya et al. (2011): A "free trade agreement" (FTA) denotes an agreement between two or more parties in which tariffs and other trade barriers are eliminated on most or all trade and each party maintains its own tariff structure vis-à-vis third parties. A "customs union" (CU) is an agreement between two or more parties in which tariffs and other trade barriers are eliminated on most or all trade and, in addition, the parties adopt a common commercial policy towards third parties which includes the establishment of a common external tariff. The term "partial scope agreement" (PSA) is employed to describe an agreement between two or more parties in which the parties offer each other concessions on a selected number of products or sectors. Economic integration agreements (EIA) refer to agreements on trade in services through which two or more parties offer preferential market access to each other.

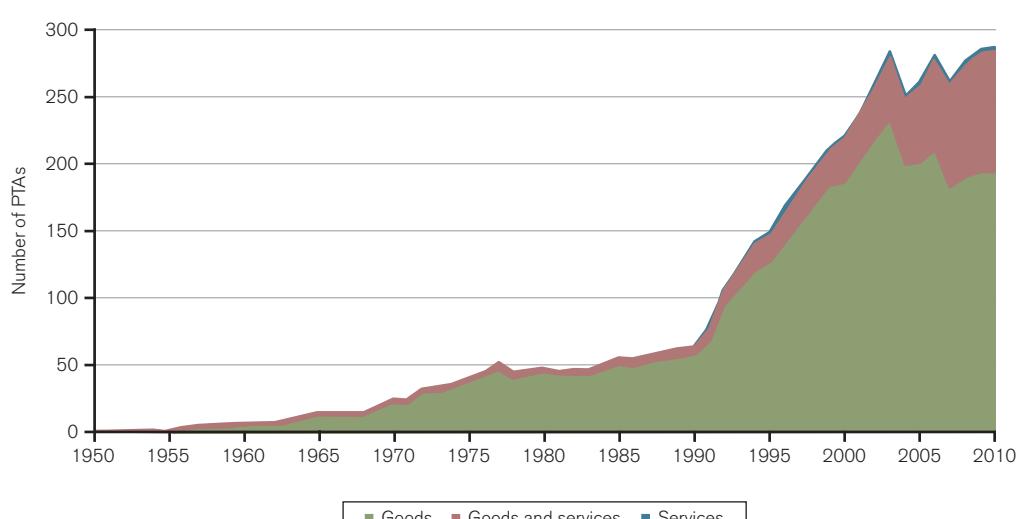
Source: WTO Secretariat.

expected, he finds that the higher the MFN tariff rate of reporting countries, the less likely it is to include a product in a PTA. Moreover, the higher the revealed comparative advantage (RCA) of partner countries, which measures their capacity to export to reporting countries' markets, the less likely a product is included in a PTA. By the same token, when products are already heavily traded between countries negotiating a

PTA (i.e. when import values are high), inclusion is more likely.

Most recent PTAs go beyond the traditional tariff-cutting exercises and cover, for example, services, investment, intellectual property, technical barriers to trade and dispute settlement. For instance, about one-third of PTAs in force today contain services

Figure B.5: Cumulative number of PTAs, 1950-2010, notified and non-notified PTAs, by scope of coverage



Source: WTO Secretariat.

commitments, and this development has accelerated in recent times (see Figure B.5).²⁸ The top 25 exporters and importers of services (on the basis of 2008 balance of payment statistics) are involved in at least one services PTA. The WTO members that have engaged in most services PTAs include Chile, Mexico, the United States, Singapore and Japan.

Almost all services PTAs notified so far involve economies in Asia-Pacific, Europe and the Americas. Only a few countries in Africa and the Middle East are parties to such agreements (i.e. Morocco, Jordan, Oman, Bahrain, and all via PTAs with the United States) although many of them are currently involved in negotiating trade agreements that may cover services. While large economies, such as Brazil, China, the EU, India, Japan and the United States, have been involved in services PTAs, they have not yet signed such agreements among themselves.²⁹ These facts are borne out by the figures contained in Table B.5, which indicate that a majority of PTAs between developed and developing countries contain commitments on services, unlike PTAs between developed countries or between developing countries.

A larger share of bilateral agreements compared with plurilateral ones contain commitments on services. This is perhaps a reflection of more complex issues being dealt with on a one-to-one basis, and of the fact that the profusion of bilateral agreements, together with the increased importance of services trade, are relatively recent phenomena. The coverage of services is particularly conspicuous for cross-regional PTAs (see Table B.5). An increasing number of bilateral PTAs across the globe, covering more than traditional tariff reductions and services in particular, may be indicative of the more strategic motivations of recent PTA formation, notably in the context of international production networks (to be further discussed in Section D).

New provisions on the enforcement of domestic labour and environmental laws have also been incorporated in certain PTAs. NAFTA has placed environmental protection on a pedestal by concluding that in the event of an inconsistency with its provisions, trade obligations

specified under different environmental and conservation agreements would prevail. The East Africa Community, to take another example, seeks to promote the sustainable utilization of natural resources, demonstrating a non-legally binding approach to dealing with these issues.

In more recent PTAs, there are commitments to cooperate across an even wider set of policy areas, such as poverty alleviation, rural development and tourism (Whalley, 2008). Significantly, most of the "new" policy areas or regulatory frameworks found in PTAs are not addressed multilaterally (an issue that will be discussed in more detail in Section D). This move into newer areas not covered by current WTO rules is reflected in the language used to describe these PTAs. For example, the recent Japan-Singapore agreement is termed a "New Age Economic Partnership" agreement, while the China-ASEAN agreement is referred to as a "Framework Agreement on Comprehensive Economic Cooperation" (Whalley, 2008).

3. Trade flows related to PTAs

The reduction of tariff rates over time – through multilateral, preferential and unilateral processes – has reduced the scope for securing meaningful trade preferences. That this has coincided with a substantial increase in the number of active preferential trade agreements suggests that countries may have reasons for entering into these agreements beyond securing access to vital export markets. The following section looks at the magnitude, direction and evolution of global trade flows in order to shed some light on this issue, and more generally to determine the impact of the expansion in PTAs in recent years. Statistics on PTA-related trade flows can reveal a number of important facts, including: i) the total value of world merchandise trade taking place among PTA members; and ii) the degree to which trade has become more or less geographically concentrated as regional trade agreements have proliferated.

Section B.3(a) addresses the first of these questions by summarizing all available data on trade flows between parties to trade agreements, and by providing a breakdown of these flows by type of agreement and

Table B.5: Number of goods and services PTAs in force, 2010, notified and non-notified PTAs, by country group, level of participation and regional type

| | Goods | Goods and services | Services |
|---|-------|--------------------|----------|
| Developed-Developed | 13 | 9 | 1 |
| Developed-Developing | 36 | 40 | 0 |
| Developing-Developing | 145 | 41 | 1 |
| Bilateral | 104 | 64 | 0 |
| Plurilateral | 38 | 11 | 2 |
| Plurilateral; at least 1 party is a PTA | 52 | 15 | 0 |
| Intra-regional | 110 | 33 | 2 |
| Cross-regional | 84 | 57 | 0 |

Source: WTO Secretariat.

product group. Focusing on total merchandise trade between PTA members significantly overstates the amount of world trade that is conducted on a preferential basis, since trade agreements generally do not apply to all goods, and existing trade preferences may not be fully utilized. However, figures on total intra-PTA trade do have certain advantages. To begin with, they give a more complete picture of the trading relationships between PTA members, which is particularly important when assessing the notion that countries may be less motivated by the desire to obtain preferential market access through PTAs than they were in the past. Also, the total value of intra-PTA trade can be seen as an upper bound estimate of the amount of trade conducted on a preferential basis. Section B.4 provides a detailed estimate of the amount of international trade receiving preferential tariff treatment, which we shall see is quite small.

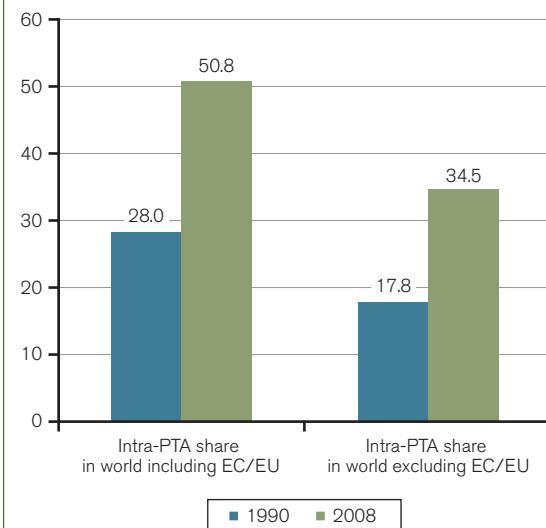
The second question – whether trade has become more or less geographically concentrated – is tackled in Section B.3(b), using WTO statistics on trade between geographical regions. One compelling explanation for the explosion in the number of trade agreements since 1990 is that these agreements may provide an institutional framework for the creation and maintenance of international supply chains, many of which are regional in nature. If this is the case, data on the magnitude and direction of trade flows within and between geographic regions could provide an indication of whether trade agreements are related to the development of global supply chains.

The data in Section B.3 mostly pertain to merchandise trade rather than to trade in services, due to a lack of sufficiently detailed information on bilateral trade flows for the latter. Such data that are available suggest that intra-PTA trade in services is relatively small compared with trade in goods, and extremely small compared with total trade in goods and services. Some examples of services trade among large PTA partners are given towards the end of Section B.3(a), but otherwise the data in this part of the report deal exclusively with merchandise trade.

(a) What is the value of world trade between PTA members?

In this subsection, we estimate total world trade between PTA members in 1990 and 2008, as well as the share of trade within PTAs (intra-PTA trade) in world trade. Intra-PTA trade flows are calculated as the sum of bilateral merchandise trade between PTA members for all available reporters in the UN Comtrade database, while total world trade is approximated by the sum of all reporters in Comtrade. We find that the dollar value of trade between members of preferential trade agreements has indeed grown faster than the world average since 1990, and as a result the share of intra-PTA trade in world trade has increased from 18 per cent in 1990 to 35 per cent in 2008 (see Figure B.6).³⁰

Figure B.6: Share of intra-PTA trade in world merchandise exports, 1990–2008 (Percentage)



Note: World is estimated as the sum of all available reporters in Comtrade.

Source: UN Comtrade database.

The value of world trade between PTA members, as measured by exports, increased from US\$ 537 billion in 1990 to US\$ 4.0 trillion in 2008 (see Tables B.6 and B.7). The contribution of different types of trade agreements to trade between PTA members has also changed as the landscape of preferential agreements has evolved. In 1990, trade between parties to plurilateral agreements made up around 10 per cent of intra-PTA trade in 1990, but this share rose to 50 per cent by 2008. One of the main reasons for the increased importance of plurilateral agreements was the establishment in 1994 of NAFTA, which replaced the bilateral Canada-US Free Trade Agreement and whose three members (Canada, Mexico and the United States) comprise the second-largest regional trade bloc by value of exports after the European Union.

Values and shares for imports are also shown in Tables B.6 and B.7, and these figures are very similar to their counterparts on the export side.

In addition to total merchandise trade values, Table B.7 also shows trade between PTA members in manufactures, as well as in a category called “parts and components”. Trade in parts and components is often used as an indicator or measure of international production networks (the role of these networks in the establishment of PTAs is discussed further in Sections C and D). Manufactures are defined here as the sum of sections 5, 6, 7 and 8 minus division 68 and group 891 in the third revision of the Standard International Trade Classification (SITC Rev.3), in accordance with the definition used in the WTO’s *International Trade Statistics* publication (World Trade Organization (WTO), 2010). There is no broadly

accepted definition of parts and components that we can appeal to, but for the purposes of this report we have defined it as the SITC Rev.3 equivalent of codes 42 and 53 in the Broad Economic Categories (BEC) classification, supplemented with unfinished textile products in division 65 of the SITC classification.

Manufactures represented 65 per cent of merchandise trade among PTA members in 2008 and around 64 per cent of intra-trade between parties to plurilateral trade agreements. The share of manufactures in total merchandise trade of all reporting countries in Comtrade (a proxy for the world) was only slightly higher at 65 per cent. The shares of parts and components in total merchandise remain between 17 and 18 per cent regardless of the type of trade agreement. Overall, it appears that product shares do not change much depending on whether agreements are plurilateral, bilateral between two countries, or bilateral involving a PTA.

Although there is little difference in product shares based on the membership composition of trade agreements, we do see significant variation in product

shares and intra-PTA trade shares when we look at individual agreements. Appendix Table 1 (see the Statistical appendix) shows exports and imports of selected plurilateral PTAs in 2008 broken down by the two product groups used in Table B.7 (i.e. manufactures, parts and components) as well as by origin and destination: trade within the PTA (intra-PTA trade) and trade outside the PTA (extra-PTA trade). Some products make up a much larger (or smaller) percentage of intra-PTA trade than extra-PTA trade. Intra-PTA trade may represent a relatively large or small part of overall trade in particular classes of goods.

As an example of how to read the table, we shall examine the case of the ANDEAN Community (comprising the Plurinational State of Bolivia, Colombia, Ecuador and Peru). We can observe that intra-PTA trade plays a small role in total ANDEAN trade on both the export and import sides. Only 8 per cent of ANDEAN members' merchandise imports and 7 per cent of their exports either originate in or are destined for other ANDEAN countries. Equivalently, we could say that extra-PTA shares are 92 per cent for imports and 93 per cent for exports, which amounts to the same thing. We can

Table B.6: World merchandise trade between PTAs, 1990 (Billion dollars and percentage)

| | Values | | Share in total world preferential trade | | Share in total world merchandise trade | |
|--|-------------------|---------|---|---------|--|---------|
| | (Billion dollars) | | (Percentage) | | (Percentage) | |
| | Exports | Imports | Exports | Imports | Exports | Imports |
| Including intra-European Union (12) | | | | | | |
| Total world plurilateral trade | 484 | 489 | 50 | 51 | 14 | 14 |
| <i>of which:</i> | | | | | | |
| EC (12) intra-trade | 429 | 429 | 44 | 45 | 12 | 12 |
| Rest of world | 55 | 60 | 6 | 6 | 2 | 2 |
| Total world bilateral trade | 482 | 472 | 50 | 49 | 14 | 13 |
| <i>of which:</i> | | | | | | |
| Canada – United States | 178 | 169 | 18 | 18 | 5 | 5 |
| EC (12) – EFTA countries | 143 | 145 | 15 | 15 | 4 | 4 |
| Rest of world | 161 | 158 | 17 | 16 | 5 | 4 |
| Total world preferential trade | 966 | 960 | 100 | 100 | 28 | 27 |
| Total world merchandise trade | 3,449 | 3,550 | - | - | 100 | 100 |
| Excluding intra-European Union (12) | | | | | | |
| Total world plurilateral trade | 55 | 60 | 10 | 11 | 2 | 2 |
| Total world bilateral trade | 482 | 472 | 90 | 89 | 16 | 15 |
| <i>of which:</i> | | | | | | |
| Canada – United States | 178 | 169 | 33 | 32 | 6 | 5 |
| EC (12) – EFTA countries | 143 | 145 | 27 | 27 | 5 | 5 |
| Rest of world | 161 | 158 | 30 | 30 | 5 | 5 |
| Total world preferential trade | 537 | 532 | 100 | 100 | 18 | 17 |
| excluding EC (12) | | | | | | |
| Total world merchandise trade | 3,020 | 3,121 | - | - | 100 | 100 |
| excluding EC (12) | | | | | | |

Source: UN Comtrade database.

Table B.7: World merchandise trade between PTAs, 2008 (Billion dollars and percentage)

| | Value | | Share in all commodities | | Share in total PTA trade | | Share in PTAs excl. EU (27) | | Share in all reporting countries ^a | | Share in all reporters excl. EU (27) ^a | |
|---|-------------------|--------|--------------------------|--------|--------------------------|--------|-----------------------------|--------|---|--------|---|--------|
| | (Billion dollars) | | (Percentage) | | (Percentage) | | (Percentage) | | (Percentage) | | (Percentage) | |
| | Export | Import | Export | Import | Export | Import | Export | Import | Export | Import | Export | Import |
| Plurilateral agreements incl. EU (27) | | | | | | | | | | | | |
| All commodities | 5,892 | 5,780 | 100 | 100 | 75 | 74 | - | - | 38 | 36 | - | - |
| Manufactures | 4,138 | 3,968 | 70 | 69 | 76 | 75 | - | - | 40 | 38 | - | - |
| Parts and components | 988 | 1,002 | 17 | 17 | 73 | 73 | - | - | 37 | 38 | - | - |
| Plurilaterals excl. EU (27) | | | | | | | | | | | | |
| All commodities | 2,017 | 2,125 | 100 | 100 | - | - | 50 | 51 | - | - | 17 | 17 |
| Manufactures | 1,286 | 1,306 | 64 | 61 | - | - | 49 | 49 | - | - | 17 | 17 |
| Parts and components | 368 | 394 | 18 | 19 | - | - | 51 | 51 | - | - | 18 | 19 |
| Bilateral agreements | | | | | | | | | | | | |
| All commodities | 2,005 | 2,083 | 100 | 100 | 25 | 26 | 50 | 49 | 13 | 13 | 17 | 17 |
| Manufactures | 1,334 | 1,348 | 67 | 65 | 24 | 25 | 51 | 51 | 13 | 13 | 18 | 17 |
| Parts and components | 359 | 371 | 18 | 18 | 27 | 27 | 49 | 49 | 14 | 14 | 18 | 18 |
| Bilaterals with one partner^a PTA | | | | | | | | | | | | |
| All commodities | 1,565 | 1,616 | 100 | 100 | 20 | 21 | 39 | 38 | 10 | 10 | 13 | 13 |
| Manufactures | 1,057 | 1,075 | 67 | 67 | 19 | 20 | 40 | 41 | 10 | 10 | 14 | 14 |
| Parts and components | 279 | 293 | 18 | 18 | 21 | 21 | 38 | 38 | 11 | 11 | 14 | 14 |
| Other bilaterals | | | | | | | | | | | | |
| All commodities | 439 | 467 | 100 | 100 | 6 | 6 | 11 | 11 | 3 | 3 | 4 | 4 |
| Manufactures | 277 | 273 | 63 | 58 | 5 | 5 | 11 | 10 | 3 | 3 | 4 | 4 |
| Parts and components | 80 | 78 | 18 | 17 | 6 | 6 | 11 | 10 | 3 | 3 | 4 | 4 |
| Total trade between PTAs incl. EU (27) | | | | | | | | | | | | |
| All commodities | 7,897 | 7,863 | 100 | 100 | 100 | 100 | - | - | 51 | 49 | - | - |
| Manufactures | 5,471 | 5,316 | 69 | 68 | 100 | 100 | - | - | 52 | 51 | - | - |
| Parts and components | 1,347 | 1,373 | 17 | 17 | 100 | 100 | - | - | 51 | 52 | - | - |
| Total trade between PTAs excl. EU (27) | | | | | | | | | | | | |
| All commodities | 4,022 | 4,208 | 100 | 100 | - | - | 100 | 100 | - | - | 34 | 34 |
| Manufactures | 2,620 | 2,655 | 65 | 63 | - | - | 100 | 100 | - | - | 34 | 34 |
| Parts and components | 727 | 765 | 18 | 18 | - | - | 100 | 100 | - | - | 36 | 37 |
| Total of all reporting countries incl. EU (27)^a | | | | | | | | | | | | |
| All commodities | 15,549 | 15,935 | 100 | 100 | - | - | - | - | 100 | 100 | - | - |
| Manufactures | 10,446 | 10,402 | 67 | 65 | - | - | - | - | 100 | 100 | - | - |
| Parts and components | 2,656 | 2,650 | 17 | 17 | - | - | - | - | 100 | 100 | - | - |
| All reporters excl. EU (27)^a | | | | | | | | | | | | |
| All commodities | 11,674 | 12,280 | 100 | 100 | - | - | - | - | - | - | 100 | 100 |
| Manufactures | 7,595 | 7,740 | 65 | 63 | - | - | - | - | - | - | 100 | 100 |
| Parts and components | 2,035 | 2,042 | 17 | 17 | - | - | - | - | - | - | 100 | 100 |

a Sum of all available reporters in the UN Comtrade database, equal to roughly 97% of world trade. WTO's estimates for total world exports and imports in 2008 from *International Trade Statistics 2010* are \$16.1 trillion and \$16.5 trillion respectively, including intra-EU trade. Total exports and imports in 2008 excluding intra-EU trade are equal to 12.1 trillion and 12.5 trillion, respectively.

Source: UN Comtrade database.

also see that the intra-PTA share in exports of manufactures is higher than that for total merchandise at 20 per cent, which means that 20 per cent of ANDEAN countries' exports of manufactures go to other ANDEAN countries. One interesting feature of ANDEAN's trade is that the share of manufactures in total exports is much larger for intra-PTA exports (52 per cent) than for extra-PTA exports (16 per cent).

The European Union is notable for having the highest intra-PTA share and the lowest extra-PTA share of any regional trade agreement. The share of intra-EU trade in total merchandise exports in 2008 was equal to 67 per cent, compared 65 per cent for manufactures and 63 per cent for parts and components. By comparison, the equivalent shares for NAFTA were 49 per cent for total merchandise, 48 per cent for manufactures, and 46 per cent for parts and components. The EU also has the second highest share of manufactures in both its intra-exports (74 per cent, behind the Asia Pacific Trade Agreement (APTA) with 82 per cent) and extra-exports (81 per cent, again behind APTA with 90 per cent).

The ASEAN free trade area recorded one of the higher shares of intra-PTA trade in total exports of parts and components with 28 per cent. ASEAN was tied with APTA for the highest share of parts and components in total merchandise exports, again with a share of 28 per cent.

Appendix tables 2 to 6 in the Statistical Appendix provide more information on intra-trade within selected PTAs, including intra-PTA shares in total exports and imports for member countries broken down by product. In some cases, not all members of the PTA are shown in the table, but unless otherwise indicated the total always refers to the sum of all available reporters in Comtrade. Years are chosen to maximize country coverage and if possible to show some of the period before agreements came into force. Intra-PTA trade shares for different products and countries have clearly changed over time. For example, within ASEAN, Thailand's exports of agricultural products are increasingly destined for ASEAN trading partners, as the share of intra-trade with these partners in the country's total agricultural products exports rose from 9 per cent in 1992 to 14 per cent in 2000 and eventually to 19 per cent in 2008. Thailand has also seen its intra-PTA share of automotive products exports rise sharply, roughly doubling from 15 per cent in 2000 to 30 per cent in 2009.

Appendix tables 2 to 6 also show rising intra-PTA trade shares for NAFTA countries between 1990 and 2000, followed by declining shares from 2000 to 2009. Surprisingly, the decline in intra-PTA trade applies to all three member countries and to most products on both the export and import sides, with the exception of Mexican fuels and mining products exports, which increased from 78 per cent to 82 per

cent. Despite its declining intra-PTA trade shares, the overall share of intra-PTA trade in total NAFTA exports remains relatively high compared with other PTAs (48 per cent for exports, 33 per cent for imports).

The intra-PTA trade share of MERCOSUR for total merchandise has also declined recently, and currently stands below its 1995 level on both the export and import sides. All member countries have seen their share of exports to MERCOSUR partners in total exports decline over time, while Argentina, Paraguay and Uruguay have increased their intra-PTA trade shares on the import side.

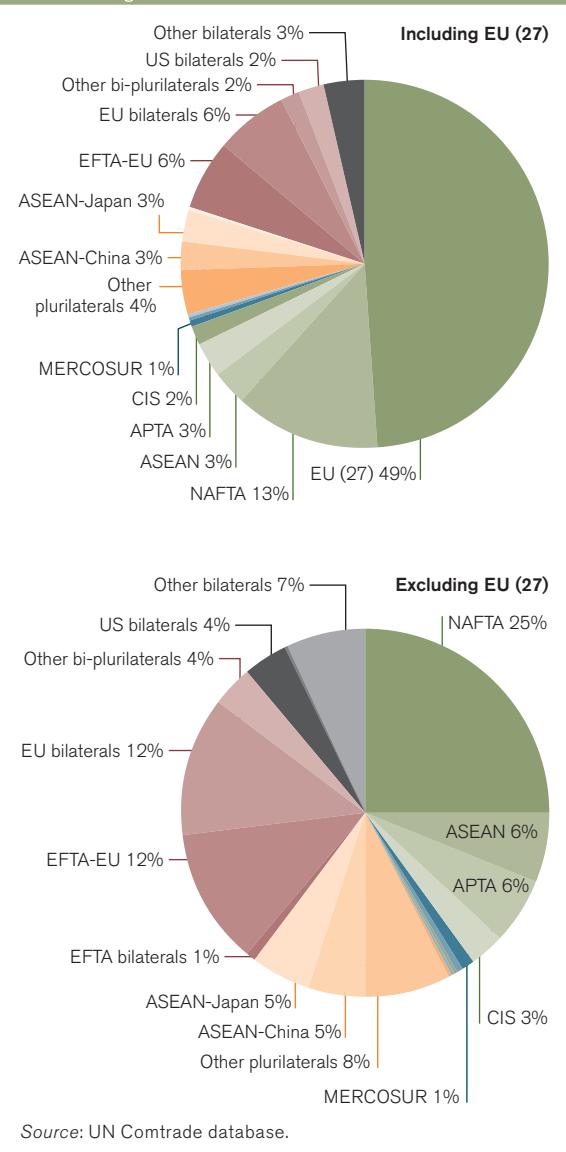
As a final example, despite the low intra-PTA trade shares for total merchandise exports of Africa, intra-PTA trade within COMESA as a percentage of total exports is quite high in certain categories of goods, including automotive products (41 per cent in 2009), parts and components (39 per cent) and manufactures (28 per cent).

The fact that a given trade agreement has a high or a low share of intra-PTA trade in its total exports may have little significance if its overall weight in world PTA trade is small. Figure B.7 shows shares of selected PTAs in world intra-PTA exports, both including and excluding trade within the EU. The EU makes up nearly half (49 per cent) of world intra-PTA exports, when trade between its member countries is considered, followed by NAFTA (13 per cent), ASEAN (3 per cent), APTA (3 per cent), the CIS (2 per cent) and MERCOSUR (1 per cent). The EU also leads all other countries and PTAs in the total value of its trade with bilateral partners, which collectively makes up 12 per cent of world intra-PTA trade (6 per cent for EFTA countries alone). By comparison, China's bilateral trade with ASEAN countries only accounts for 3 per cent of world intra-PTA trade, while US bilateral agreements make up just 2 per cent of the world total.

The overwhelming weight of the European Union in world exports between PTA members provides another argument for excluding trade within the EU, since its inclusion may only serve to severely underestimate the importance of other preferential agreements in world trade. Without intra-EU trade entering into the calculation of shares, NAFTA becomes the largest trade agreement by value, representing 25 per cent of world intra-PTA trade. However, EU bilateral trade agreements collectively add up to 24 per cent of the total, including 12 per cent with EFTA countries. Other PTAs all see their shares roughly double after excluding trade within the EU.

Data on intra-PTA trade in services are limited due to the small number of countries reporting bilateral services trade statistics to international organizations, as well as the differing levels of partner detail across reporting countries. To get a rough idea of the magnitude of global intra-PTA trade in services, it may

Figure B.7: Shares of selected PTAs in total world exports between PTA members, 2008 (Percentage)



suffice to look at the largest services traders for which partner data are available, namely the European Union and the United States.

According to data from the Organisation for Economic Co-operation and Development (OECD), EU exports of services to PTA partners came to US\$ 192 billion in 2008, equal to 25 per cent of total extra-EU exports of services and 7 per cent of extra-EU exports of goods and services. However, the above figure includes exports to partners in PTAs that cover goods alone as well those that cover goods and services. If only agreements that deal with services explicitly are considered, exports to PTA partners totalled just US\$ 18.5 billion, equal to 2.4 per cent of exports of services outside the EU and less than 1 per cent of goods and services exports.

On the import side, EU trade with PTA partners outside the EU amounted to US\$ 167 billion including agreements covering goods alone (equal to 26 per cent of total EU services imports and 6 per cent of goods and services imports). This figure drops to US\$ 20 billion when only agreements that deal with services are considered (equal to 3 per cent of services imports and less than 1 per cent of goods and services imports). Meanwhile, the United States' exports and imports of services to and from PTA partners amounted to roughly US\$ 80 billion and US\$ 45 billion, respectively, in 2008. These accounted for 15 per cent of total US services exports and 12 per cent of services imports. Shares in goods and services were 4 per cent for exports and 2 per cent for imports.

Exports and imports of the EU and the United States are also small compared with these countries' exports and imports of merchandise to PTA partners. The EU's US\$ 192 billion in exports of services to PTA partners was only 20 per cent as large as exports of merchandise outside the EU, while the US\$ 167 billion of imports was only equal to 17 per cent of merchandise imports. These shares fall to 2 per cent on both the export and import sides when agreements dealing with services are considered exclusively. As for the United States, its exports of services to PTA partners were only 7 per cent as large as its merchandise exports to PTA partners, while its imports were only 4 per cent as large.

The preceding tables and charts were intended to quantify the amount of world trade that occurs between parties to preferential trade agreements and to give an indication of its composition. However, as was noted earlier, the amount of trade between PTA members is much larger than the amount of trade that is on a preferential basis. As explained in Section B.4, around half of world merchandise imports (52 per cent of 20 major economies considered), are MFN duty free and therefore ineligible for preferential treatment. A further 19 per cent of imports are subject to low MFN tariffs of 5 per cent or less, bringing the total share of world trade subject to low or zero MFN tariffs to 71 per cent. This leaves limited scope for large tariff reductions to be granted in PTAs – a subject that will be examined in Section B.4, which provides more detailed estimates of the breakdown of preferential trade.

(b) Has trade become more geographically concentrated?

In examining trade between regions, existing WTO datasets on merchandise trade were used, particularly the Network of Merchandise Trade that appears in the WTO's *International Trade Statistics* publication (World Trade Organization (WTO), 2010). These data cover trade by product for the world as well as within and between geographical regions in current US dollar

terms. Network data are available back to 2000, according to the WTO's current regional and product classifications, and back to 1990, according to the WTO's old country and product groupings. These have been harmonized to the greatest extent possible in the tables and charts to follow. For data before 1990 and for individual countries, the UN Comtrade database has been used.

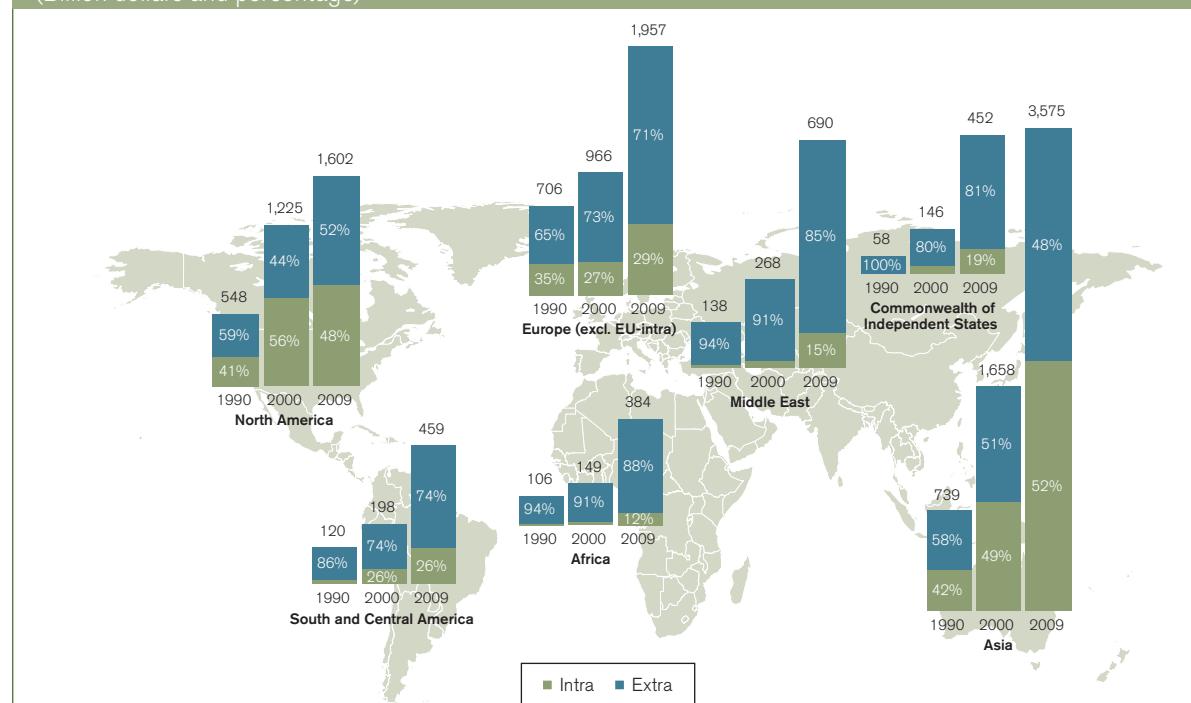
Map B.2 shows total merchandise exports of WTO regions from 1990 to 2009, as well as their respective shares of trade within the region (intra-regional trade) and outside the region (extra-regional trade), based on the network data described above and summarized in Appendix table 7. Asia, North America and Europe are shown according to one scale, while the CIS, South and Central America, Africa and the Middle East have a separate scale.

Although it is not clear from the map due to the exclusion of intra-EU trade, the region with the largest share of intra-regional trade in its total exports is Europe. Europe's exports increased from US\$ 1.7 trillion in 1990 to US\$ 6.5 trillion in 2008 before falling to US\$ 5.0 trillion in 2010, but the share of intra-regional trade in the region's total exports has remained roughly constant at around 73 per cent throughout the entire period. However, when the European Union is considered as a single entity and trade within the EU is excluded, Europe's intra-regional

trade share falls to third place behind Asia and North America. Intra-regional trade shares before 2000, which come to around 35 per cent, only exclude trade within the EU's 15 member states at that point. Shares in subsequent years exclude trade among all 27 current EU members and are measured at just under 30 per cent.

Whether it makes sense to exclude trade within the EU in this way depends on the questions being asked of the data. The European Union is the latest incarnation of one of the earliest post-war preferential trade agreements, the European Coal and Steel Community. This agreement developed into the European Economic Community (EEC), the European Community (EC) and eventually the European Union based on the principle of supra-nationalism, in which national sovereignty is pooled between countries in certain policy areas, notably trade. This decades-long process of integration has served as a model for many other trade agreements, and consequently trade within the EU arguably should be considered in any historical account of regionalism. However, since the creation of the "single market" in 1997 and the introduction of a common currency in 2002, the European Union has clearly become something more than just a customs union, let alone a preferential trade agreement. As a result, it is sometimes preferable to treat the EU as a single entity by excluding intra-EU trade from regional and world

Map B.2: Intra-regional and extra-regional merchandise exports of WTO regions, 1990–2009
(Billion dollars and percentage)



Note: Graphs for regions are not shown to scale. Colours and boundaries do not imply any judgement on the part of WTO as to the legal status of any frontier or territory.

Source: Network of world merchandise trade tables from WTO International Trade Statistics 2010, supplemented with older network tables and Secretariat estimates prior to 2000.

totals. Wherever possible, statistics that both include and exclude trade within the EU have been presented.

Even though the share of intra-regional trade in Europe's exports has been steady for nearly two decades, it is conceivable that total merchandise trade figures could obscure important changes at the product level – for example, when falling intra-regional trade shares for one product cancel rising shares for other products. However, this is not the case for Europe (with some minor exceptions). European intra-regional trade shares are steady back to 1990 not just for agriculture and fuels and mining products but also for a wide range of manufactured goods, including automotive products, office and telecom equipment, clothing and chemicals. The intra-regional share for iron and steel did rise from 75 per cent in 1990 to 80 per cent in 2000, but this fell back to 77 per cent in 2008 and then to 73 per cent in 2009 following the financial crisis. The lack of change in intra-EU trade since 1990 is perhaps not surprising, since much of the work of reducing trade barriers between member countries was completed decades ago.

After Europe, the region with the next largest share of intra-regional trade in its total exports is Asia. Its intra-regional trade share has risen over time, from 42 per cent in 1990 to 52 per cent in 2009. However, most of this increase occurred at the beginning of this period, and the shares for Asia have remained close to 50 per cent since the mid-1990s. Unlike Europe, the steady share of intra-regional trade in total exports does indeed mask significant shifts at the product level.

Asia's intra-regional share of agricultural products exports dropped from 65 per cent in 1990 to 57 per cent in 2009, but since agriculture only represents around 6 per cent of Asia's exports in value terms, the impact of this change on the share for total merchandise trade was barely discernible. More significantly, its intra-regional share of office and telecom exports jumped from 30 per cent in 1990 to 55 per cent in 2009. This rise was countered by falling intra-regional shares for iron and steel (down from 80 per cent in 1995 to 64 per cent in 2009), textiles (down from 65 per cent in 1995 to 46 per cent in 2009), and clothing (down from 29 per cent in 1995 to 22 per cent in 2009.) The share of intra-regional trade in Asian automotive products exports has fluctuated over time with no obvious trend. These contrary movements left the intra-regional share in exports of manufactures nearly unchanged between 1995 and 2007 at around 47 per cent.

Developments for Japan and China merit special attention given their weight in Asian and world trade. Between 1995 and 2008, China's exports to Japan grew more slowly than China's overall exports to the world, and this trend was especially pronounced in

office and telecom equipment. On the other hand, growth in Japan's shipments to China has been much stronger than Japanese exports to the world. Furthermore, the share of Japan's exports going to developing Asia (including China) increased from 31 per cent in 1999 to 54 per cent in 2009. At the same time, the share of developed economies in China's exports increased from 29 per cent to 36 per cent between 2000 and 2009. These changes suggest the development of regional production networks involving Japan and China, which may consist of parts and components being shipped from Japan to China, and later from China to other countries after some elaboration.

The share of intra-regional trade in North America's total merchandise exports jumped from 41 per cent in 1990 to 56 per cent in 2000 before falling back to 48 per cent in 2009. The lower share in 2009 was not merely a product of the trade collapse that followed the global financial crisis, since the share was almost the same as in 2008 (49 per cent) when global trade peaked. Several important sectors displayed falling shares of intra-regional trade between 2000 and 2009, including automotive products (down from 89 per cent in 2000 to 72 per cent in 2008 and 76 per cent in 2009). The falling intra-regional shares were not limited to manufactures, as intra-regional trade of agricultural products and fuels and mining products also declined. Office and telecom equipment was the only sector to record an increase, from 27.5 per cent in 1990 to 50.1 per cent in 2009.

The remaining regions (i.e. the CIS, Africa, the Middle East and South America) all have much smaller intra-regional trade shares in their total merchandise exports, mostly due to the fact that they export large quantities of natural resources, mostly to developed economy markets in Europe, North America and Asia. Intra-regional trade shares for the CIS, Africa, the Middle East and South America in 2009 were 19 per cent, 12 per cent, 15 per cent and 26 per cent, respectively. Although these shares are quite small compared with other regions, most are up sharply since 1990. For example, African countries' exports to other African destinations represented just 6 per cent of the continent's total merchandise exports in 1990, but this share nearly doubled to 12 per cent by 2009. Whether this increase had anything to do with preferential trade agreements is unclear, but the fact that it occurred in the face of rising oil prices is noteworthy. Africa's intra-regional trade share excluding fuels and mining recorded an even larger increase, from 9 per cent in 1990 to 22 per cent in 1999. Intra-regional trade in manufactures also more than doubled its share in total exports during the same period, rising from 13 per cent to 28 per cent.

Despite similarities to other resource-exporting regions, South and Central America's case is different due to the fact that the region's exports are more

diverse. For example, fuels and mining products made up nearly 70 per cent of Middle East exports in 2009, whereas the share of these products in South and Central America's exports was just 30 per cent. The share of intra-regional trade in South and Central America's total merchandise exports increased from 14 per cent to 26 per cent between 1990 and 2009, but aggregation obscures some of the more dramatic changes taking place at the product level. The regional component of South and Central America's exports of manufactured goods increased sharply from 17 per cent in 1990 to 44 per cent in 2009. This rise is partly attributable to an even larger increase for automotive products, from 25 per cent in 1990 to 73 per cent in 2009. The share of intra-regional trade in iron and steel exports also more than doubled, from 15 per cent to 31 per cent.

The share of intra-regional trade in world trade can be estimated by taking the sum of intra-regional trade values for all regions and dividing by world merchandise exports. This was equal to 54 per cent of world merchandise exports in 2009, or US\$ 6.6 trillion. This share has changed very little since 1990, when it stood at 53 per cent of world exports, or US\$ 1.8 trillion.

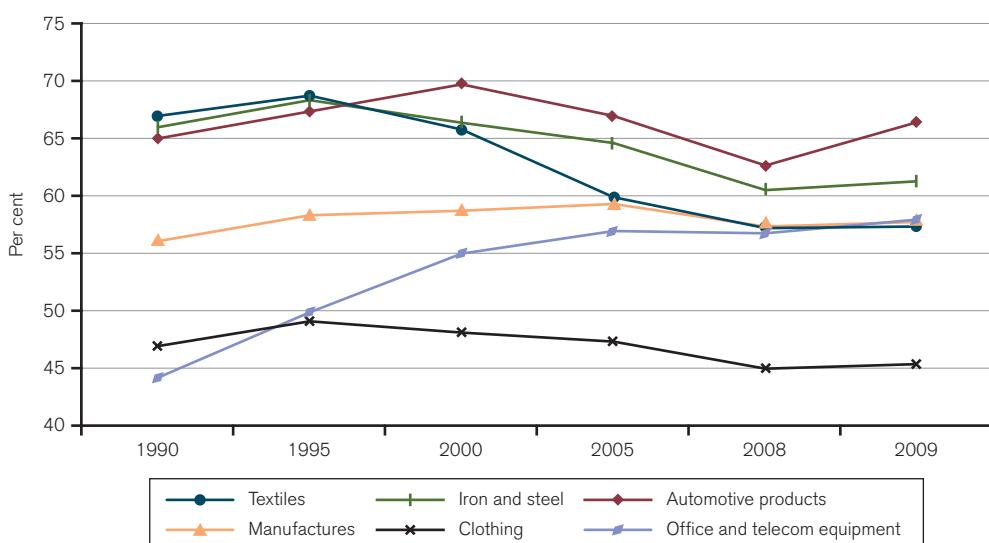
Figure B.8 illustrates intra-regional trade shares in total world exports for selected manufactured goods between 1990 and 2009. The share of intra-regional trade in world manufactures exports is quite stable over time, fluctuating between 56 and 59 per cent. Office and telecom equipment recorded the largest increase, as its intra-regional share increased from 41 per cent in 1990 to 58 per cent in 2009. The intra-regional component of world automotive products exports also increased from 65 per cent to nearly

70 per cent in 2000 before falling to 63 per cent in 2008.

Figure B.9 shows shares in world merchandise imports based on available reporters in the UN Comtrade database at five-year intervals beginning in 1965 (the CIS region is excluded due to insufficient data). The share of intra-regional trade in East Asia's total imports rose inexorably between 1965 and 2005, from 35 per cent to 60 per cent. During the same period the European Union (15) saw an increase in its intra-trade share, which advanced from 53 per cent in 1965 to 65 per cent in 1990 before falling back to 56 per cent in 2005. Europe (which excludes intra-EU trade) recorded an increase in its intra-regional trade share from 26 per cent in 1965 to 40 per cent in 2005. North America's intra-regional trade share in total imports started out at 39 per cent in 1965, then rose slightly to 42 per cent in 1970 before sliding to a low point of 33 per cent in 1980. Beginning in 1990, the share of intra-regional imports in total imports increased to nearly 40 per cent in 2000 before dropping to 35 per cent in 2005. South and Central America saw its intra-trade share jump from 16 per cent in 1975 to 29 per cent in 2005.

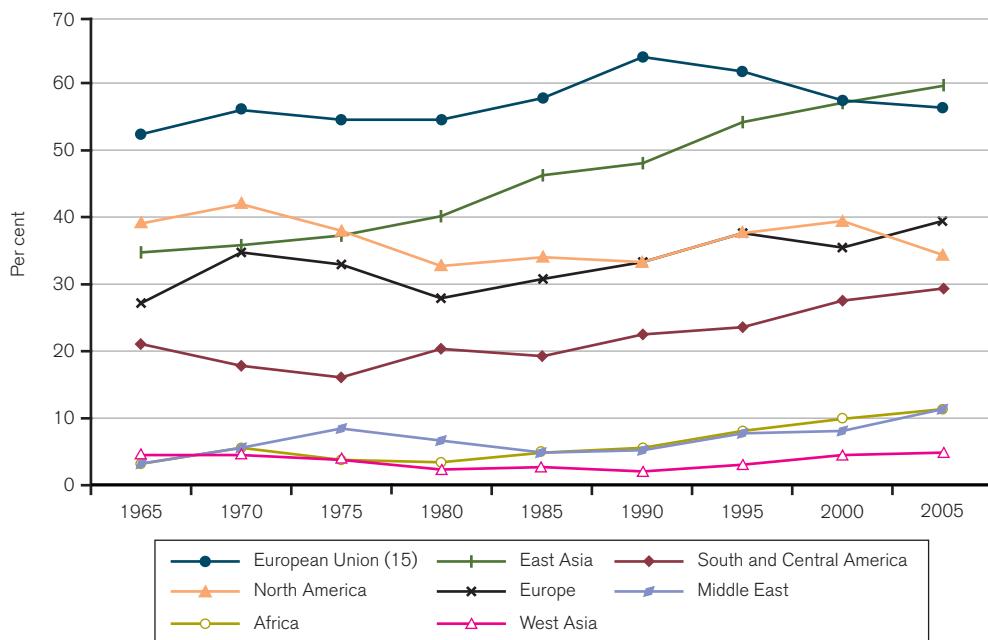
In summary, the share of intra-regional trade in total exports of North America has declined in the last ten years, while Asia has recorded a small increase. During the same period, Europe's intra-regional trade share including intra-EU trade was flat. Resource-exporting regions have tended to increase their (undeniably small) intra-regional trade shares in recent years despite rising prices and strong demand growth for fuels and mining products, especially in Asia. However, the share of intra-regional trade in world trade in 2009 was effectively the same as in 1990.

Figure B.8: Intra-regional trade shares in world by manufacturing sector, 1990–2009



Source: WTO International Trade Statistics 2010, Secretariat estimates.

Figure B.9: Shares of intra-regional trade in total imports by region, 1965-2005



Source: UN Comtrade.

4. How preferential is trade?

Trade between PTA members is growing as the number of agreements increase. About one half of world trade now takes place among PTA members.³¹ However, examining total trade flows between PTA partners overstates the amount of trade that takes place on a preferential basis. This is partly because tariff schedules of many PTA members increasingly contain duty-free MFN rates on which no further tariff reduction can be given. Hence, while the number of PTAs has been increasing, the importance of preferential trade has not kept pace. This development reflects a substantial reduction in MFN tariffs during the past two decades, either through multilateral trade negotiations or unilateral reductions.

Even when preference margins are positive, preferential rates available in the context of PTAs may not always be utilized (i.e. products may continue to be traded under applicable MFN rates). Actual utilization of preferential rates depends on a range of factors. These relate both to the benefits of using preferences (notably the size of the preference margin) and the costs (e.g. rules of origin and other administrative requirements to be fulfilled).³² As the latter are likely to constitute some sort of fixed cost, transaction size may also play a role. This implies that firm-specific characteristics, such as size, experience, ownership and access to information, may also play a role.

This subsection uses three different data sources to estimate the amount of trade that receives PTA concessions in various ways. Each source also

contains information that allows for an analysis of some of the factors that can explain utilization of preferential rates. To begin with, matched tariff line and trade data for 20 countries covering large parts of world merchandise imports are examined. From this, the amount of trade already receiving MFN zero tariff rates can be determined, with the remaining trade constituting the upper bound for the size of preferential trade assuming full utilization of tariff preferences. The amount of trade eligible for different ranges of preference margins as well as the overall average trade-weighted preferential margin can also be calculated. The size of the preferential margin is an important determinant for the utilization of available preferential rates.

Next, customs data from the EU and US on the value of imports under different preferential regimes are considered. On the basis of this information, actual aggregate preference utilization rates can be computed. Using these rates at the product-exporter level, the significance of the size of preference margins and trade flows in explaining preference utilization can be formally tested. Finally, data from firm surveys on the utilization of preferences by individual companies can be obtained for selected regions. While these data do not contain disaggregate information on the size of preference margins and actual trade flows, it sheds light on the different cost factors affecting firms' decisions to make use of available preferences. The data can also be sorted in order to identify firm attributes, such as firm size or experience, that are associated with higher utilization of preferential rates.

(a) Matched tariff line and trade data³³

The analysis conducted in this subsection uses data on imports by the 20 largest importers from all partner countries.³⁴ The sample covers around 90 per cent of world trade in 2008. The bilateral import flows are matched with tariff data of the same year.³⁵ Highly disaggregated tariff-line import and tariff data are used wherever possible, rather than the data at sub-heading (HS-6) level underlying many previous studies.³⁶ The main source for import data at the tariff-line level is the TradeMap dataset of the International Trade Centre (ITC). Tariff schedules or commitments are taken from the World Integrated Trade Solution (WITS).³⁷

The principal output of the analysis is the share of trade that is preferential (by different ranges of preference margins),³⁸ the share of trade that is non-preferential (and applicable MFN duties using the same ranges) as well as the share of trade at MFN zero tariff rates, for which no further preferences can be granted. From this, the overall trade-weighted preferential margin can also be determined.³⁹ In order to give a complete picture regarding the extent to which trade is preferential, the dataset considers both reciprocal and non-reciprocal preferences. However, in light of the focus of this report, the discussion concentrates on trade between PTA partners. In any event, the analysis shows that most preferential trade occurs under reciprocal regimes.

In the following subsections, the extent of preferential trade and preferential margins are shown by importer, exporter, tariff regime, country group and product group. Finally, some observations are offered on recent developments in PTAs and their implications for preferential trade and average preference margins. The results of this analysis show that the share of preferential trade is surprisingly small. Only 16 per cent of world trade is potentially preferential (30 per cent if trade within the EU is included), and less than 2 per cent of world trade (4 per cent including trade within the EU) is eligible for preference margins above 10 percentage points. This is in large part due to the fact that for most traded items MFN rates are already low or zero, which limits the scope for granting preferences.⁴⁰ Assuming static trade flows and full utilization of preferences, all preferences together reduce the global⁴¹ trade-weighted average tariff by one percentage point (from 3 to 2 per cent),⁴² and 90 per cent of this reduction, i.e. 0.9 percentage points, is due to reciprocal preference regimes.

(i) Preferential trade by importer

On aggregate, 50 per cent of imports by the 20 countries examined here (excluding intra-EU trade) originate in countries with which some sort of preferential agreement exists (see Appendix table 8). Only a third of that (16 per cent of all trade) is

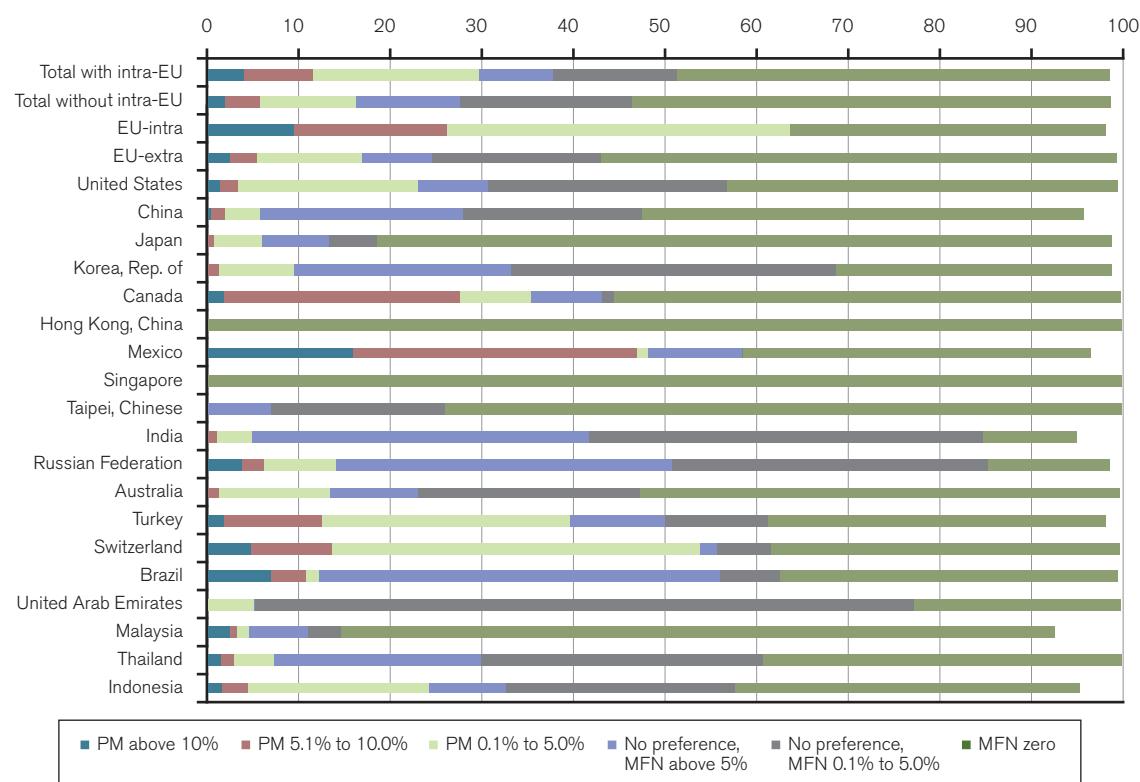
potentially preferential, which can easily be seen from Figure B.10.⁴³ There are two reasons for this difference: first, over one half of world trade is already subject to zero MFN rates, implying that no preferences can be granted. For example, 63 per cent of Singapore's imports originate in PTA partners, but practically all of its imports enter under MFN zero duties.⁴⁴ Second, preference regimes often feature product exemptions, such that trade in these products still occurs at MFN rates.

For some countries, the share of preferential imports is high. In Figure B.10, it is shown that 64 per cent of intra-EU trade, 48 per cent of Mexico's imports and 54 per cent of Switzerland's imports are preferential, i.e. face a positive preference margin, but these margins are mostly fairly small. Only a small share of imports – less than 2 per cent across all 20 countries (excluding intra-EU trade; the share amounts to 4 per cent if trade within the EU is included) – is eligible for preferences where preference margins are 10 per cent or more. The main exception is Mexico (15.8 per cent of imports). Brazil also grants high preference margins to a relatively large share of imports (7 per cent), and 9.4 per cent of trade within the EU enjoys a preference margin of over 10 per cent. Not surprisingly, MFN duties for non-preferential imports are usually low. The share of MFN zero imports is in the range of 40-50 per cent in most countries. Notable exceptions include India and Russia with small shares of MFN zero imports, and Singapore and Hong Kong, which generally apply no duties. On aggregate, only 3.8 per cent of global non-preferential imports have MFN duties above 10 per cent (2.8 per cent if trade within the EU is included).

In Appendix table 9, a counterfactual value of MFN duties is calculated that would need to be paid in the absence of preferential arrangements, assuming the value of trade remains unchanged.⁴⁵ This figure can be contrasted to actual duties, assuming that available preferences are fully used. The differences between these two numbers constitute "duties saved" through preferences.

Overall, preferential rates reduce global tariffs by approximately one-third (almost two-thirds including trade within the EU), assuming trade flows were the same in the absence of preferences. For some countries, this ratio is considerably higher. For example, in Mexico duties paid with preferential tariffs constitute only about 16 per cent of the statutory MFN duties. Among other things, this is due to the large share of Mexico's imports under NAFTA and its extensive product coverage. From this information, it is also possible to calculate the trade-weighted average preference margin, which overall is rather low, just 1 per cent on aggregate (excluding trade within the EU; with EU intra-trade it is about 2 per cent) and less than 1 per cent for most countries individually.⁴⁶ The average margin is fairly high for trade within the EU (4.9 per cent), especially in comparison to the

Figure B.10: Preferential trade by importer, 2008, shares by preference margin and MFN rates (Percentage)



Note: In some cases, trade and/or tariff data refer to the year 2006, 2007 or 2009, depending on data availability.

Source: ITC TradeMap, WITS (TRAINS), UN Comtrade, US ITC, TARIC.

margin granted by the EU to third countries (0.9 per cent), as well as for Mexico (9.3 per cent).

(ii) Preferential trade by exporter

Figure B.11 (together with Appendix table 10) provides the preferential margins received by the 30 largest exporters in the 20 importing countries included in the dataset.⁴⁷ In aggregate, about one half of exports go to partners with whom the exporter has some type of preferential arrangement. However, this does not always mean that preferential tariffs are received for a large proportion of exports, or that the preferential margin is substantial.

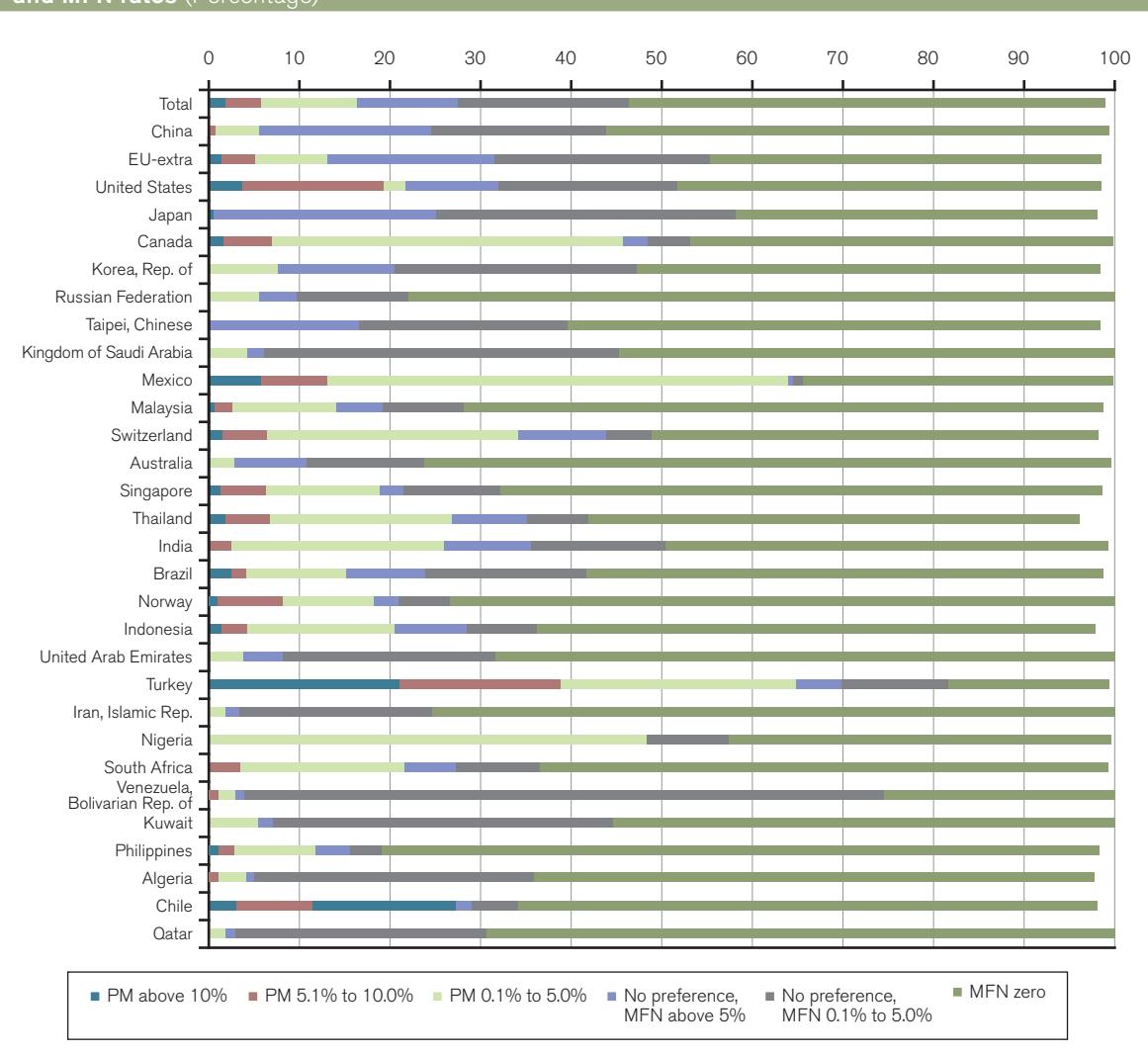
For instance, 95 per cent of exports from Chile, one of the most active negotiators of PTAs in recent years, are destined for countries giving at least some preferences to Chilean goods. However, only 27 per cent of Chile's exports are eligible for preferential tariffs, with just 3 per cent of its exports benefiting from a margin above 10 per cent. Sixty-four per cent of Chile's exports face zero MFN rates and only 7 per cent are subject to positive MFN duties. By contrast, Mexico, with 98 per cent of its exports going to PTA partners, enjoys preferences on over 60 per cent of its exports; even so, less than 6 per cent of its exports obtain a preference margin of more than 10 per cent.

The proportion of exports going to destinations where preferences are granted is considerably lower for the three largest developed country exporters, namely 39 per cent for the US, 21 per cent for the EU and only 5 per cent for Japan. Again, the share of exports receiving substantial preference margins is low. While for the US, at least about 20 per cent of its exports enjoy a preference margin above 5 per cent, only 3.7 per cent of exports benefit from a preference margin of more than 10 per cent (see Figure B.11).

Among the 30 largest exporters, the country with the highest share of exports (21 per cent) enjoying a preference margin of more than 10 per cent is Turkey, and its overall trade-weighted preferential margin is the highest within this group (5 per cent). At the same time, while between 40 and 70 per cent of exports are duty-free under MFN rates for all major exporters, this is the case for only 18 per cent of Turkey's exports.⁴⁸ Overall, it appears that for most large exporters, preferential tariffs matter little for the bulk of their exports. This is not always true for individual sectors, some of which enjoy substantial preference margins, but only account for a small share of exports. As a result, the average preference margin is fairly low.

A number of mostly smaller countries exporting a narrow set of commodities (mainly sugar, rice,

Figure B.11: Preferential trade by exporter (30 largest exporters), 2008, shares by preference margins and MFN rates (Percentage)



Note: In some cases, trade and/or tariff data refer to the year 2006, 2007 or 2009, depending on data availability.

Source: ITC TradeMap, WITS (TRAINS), UN Comtrade, US ITC, TARIC.

bananas, fish and garments) to preference-granting markets, in particular the EU and to a lesser extent the United States, enjoy more substantial preference margins. For most countries, reciprocal preferences, if measured, for instance, by the share of duties saved through reciprocal schemes in all preferences received, are now far more important than non-reciprocal regimes. This is especially true since, for example, the EU has signed EPAs with most of the ACP countries that used to benefit from unilateral preferences given by the EU.

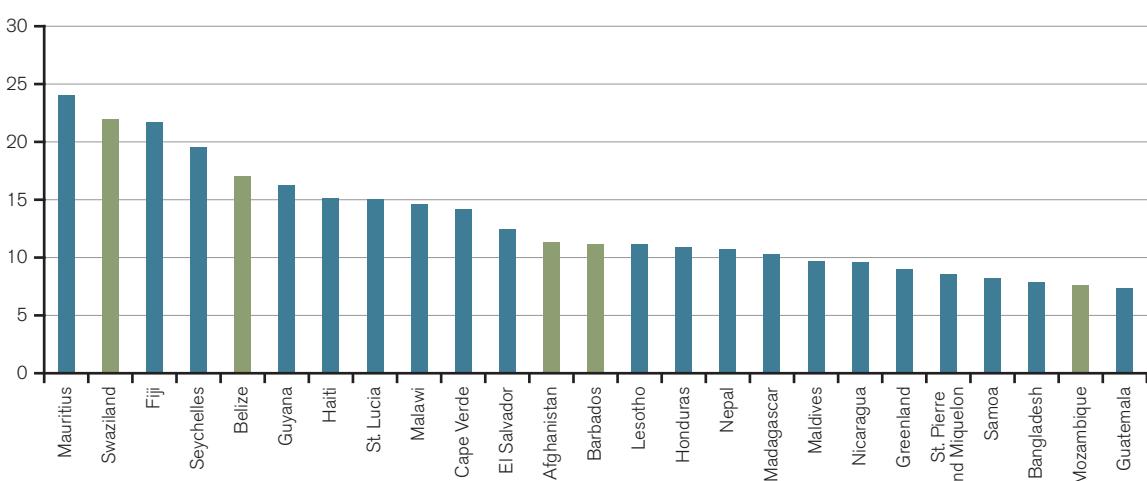
Figure B.12 shows the 25 countries with the highest trade-weighted preferential margin.⁴⁹ Mauritius is leading the list with a trade-weighted average preference margin of 24 per cent faced by its exports. This can be explained by the composition of Mauritian exports which, to an important extent, consist of garments, fish and sugar, i.e. items subject to high

MFN duties in its main export market, the EU. While other countries, such as Guyana (preferential exports of sugar and rice to the EU and garments to the United States), may depend on preferential tariffs in these sectors as well, they also export minerals and other raw materials that do not face high MFN tariffs, and, therefore, feature smaller average preference margins. Overall, around 40 exporters have a trade-weighted preferential margin of 5 per cent or more and almost all of them are ACP and/or LDC countries.⁵⁰

(iii) Preferential trade by type of regime

As noted above, it is possible, subject to certain assumptions, to allocate trade to different preferential regimes, in particular in order to distinguish between non-reciprocal and reciprocal preference schemes in the dataset, given the focus of this report.⁵¹ From

Figure B.12: Preferential trade by exporter (25 exporters with highest trade-weighted preferential margin), 2008, preference margins (Percentage)



Note: In some cases, the data refer to the year 2006, 2007 or 2009, depending on data availability. For many of the countries shown here, the trade-weighted preference margin depends heavily on the *ad valorem* equivalent for key export items to the EU (e.g. raw sugar and bananas). Countries shown in green have less than 70 per cent of their exports going to the covered 20 importers. In the case of Barbados and Belize, very large exports are reported to Nigeria, which seems to be an error in the Comtrade data. A high share of Malawi's exports has an unknown *ad valorem* equivalent. The affected product is tobacco, exported to the EU.

Source: ITC TradeMap, WITS (TRAINS), UN Comtrade, US ITC, TARIC.

Table B.8, it is clear that some regimes are more preferential than others. Intra-EU trade clearly is preferential, with almost 64 per cent of trade enjoying preferential tariffs and the remainder being traded at MFN zero rates. By contrast, the preferential share for intra-ASEAN trade is just about 20 per cent. Although tariffs in ASEAN member countries, when measured on a simple average basis, are higher than in the EU, goods traded among ASEAN countries tend to be products, where MFN tariffs are already zero (73 per cent of trade flows within ASEAN).⁵²

Measured in terms of the trade-weighted average preference margin, the "most preferential" regime is the one governing trade between Brazil and the rest of MERCOSUR with a margin of over 16 per cent. Eighty-five per cent of imports from MERCOSUR partners are given a preferential tariff by Brazil, and for 63 per cent of trade the preference margin is above 10 per cent. The trade-weighted preferential margin is also high for trade between Brazil and Mexico (14 per cent) and EPAs (8 per cent) as well as for trade between Turkey and the EU, intra-EU trade and trade within NAFTA, with margins of around 5 per cent.

The last column in Table B.8 shows the share of duties remaining with full use of preferences, compared with MFN duties that would otherwise apply. This can be seen as an indicator of the product coverage of the preferential agreement with regard to traded items, with a lower rate indicating a larger coverage.⁵³ Coverage is very high for most regimes shown here, except for Japan-Singapore, Japan-Mexico and India-Singapore, which are fairly recent PTAs and may not be fully implemented. This is in

stark contrast to non-reciprocal regimes, which often have a very low coverage. For example, both the EU and US Generalized System of Preferences schemes waive duties for less than 20 per cent of the amount otherwise due. Another way to look at this is to consider the share of non-preferential trade within a preferential regime. For example, almost no trade among NAFTA countries, and only 1.3 per cent of trade between the EU and Switzerland, is non-preferential.⁵⁴ On the other hand, 22 per cent of trade between Japan and Mexico is still subject to positive MFN duties, which can be seen as evidence of significant product exclusions at the current stage of implementation.

Taking into account the complete list of regimes included in the database and distinguishing between reciprocal and non-reciprocal schemes, it turns out that about 80 per cent of preferential trade takes place under reciprocal preference regimes, i.e. PTAs as defined in this report. Even more strikingly, almost 90 per cent of the global trade-weighted preference margin is related to preferences under PTAs.⁵⁵ NAFTA alone contributes 43 per cent to global tariff savings from preferences, which corresponds to about one half of all duties saved in reciprocal agreements (not including trade within the EU). In large part, this is due to Mexico's comparatively high statutory MFN rates. Trade within the EU, with a preferential margin similar to that of trade within NAFTA, but with a much higher trade value, "saves" EU members duties of US\$ 185 billion, which is twice as much as all duties saved by other preferential agreements taken together.

Table B.8: Preferential trade by agreement/type of regime, 2008, selected regimes

| Regime | Share of trade by preferential margin (PM) and MFN rate (in per cent of total trade) | | | | | | | | | | | | | | n/a | Total trade (billion dollars) | Trade-weighted pref. margin (percentage points) | Duties "saved" (billion dollars) | Pref. duties over MFN duties (per cent) |
|-------------------------------|--|--------------|-----------------|----------------|---------------|------------------------|-------------|---------------|------------------|-----------------|----------------|------------------|-------------|------------|----------------|-------------------------------|---|----------------------------------|---|
| | Preferential trade | | | | | Non-preferential trade | | | | | MFN zero | | | | | | | | |
| | Total | PM above 20% | PM 10.1% to 20% | PM 5.1% to 10% | PM 2.6% to 5% | PM 0.1% to 2.5% | Total | MFN above 20% | MFN 10.1% to 20% | MFN 5.1% to 10% | MFN 2.6% to 5% | MFN 0.1% to 2.5% | Total | | | | | | |
| MFN | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 44.8 | 1.1 | 3.8 | 11.7 | 15.6 | 12.7 | 53.9 | 1.3 | 4,874.4 | 0.0 | 0.0 | 100.0 | |
| EU-intra | 63.7 | 3.9 | 5.5 | 16.7 | 19.6 | 18.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 34.4 | 1.8 | 3,807.4 | 4.9 | 185.4 | 0.0 | |
| Reciprocal regimes | 43.7 | 1.8 | 4.0 | 12.5 | 9.3 | 16.1 | 7.6 | 0.3 | 0.7 | 2.5 | 2.9 | 1.2 | 47.0 | 1.7 | 2,802.8 | 3.0 | 83.9 | 23.5 | |
| NAFTA | 60.9 | 2.7 | 3.6 | 21.5 | 8.3 | 24.9 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 38.2 | 0.8 | 912.3 | 4.5 | 40.7 | 0.3 | |
| EU-Switzerland | 56.9 | 1.1 | 2.8 | 8.7 | 12.7 | 31.6 | 1.3 | 0.3 | 0.2 | 0.5 | 0.2 | 0.1 | 41.0 | 0.8 | 261.4 | 2.2 | 5.7 | 16.4 | |
| intra-ASEAN* | 20.1 | 2.0 | 2.0 | 2.6 | 4.7 | 8.7 | 3.6 | 0.3 | 0.0 | 0.0 | 1.7 | 1.6 | 72.9 | 3.4 | 140.8 | 1.7 | 2.3 | 27.4 | |
| EU-Turkey | 78.4 | 0.6 | 14.6 | 23.7 | 26.4 | 13.1 | 0.9 | 0.2 | 0.3 | 0.3 | 0.0 | 0.1 | 20.0 | 0.7 | 140.7 | 5.1 | 7.2 | 4.4 | |
| EU-Mexico | 51.2 | 3.5 | 10.0 | 30.1 | 3.5 | 4.1 | 0.9 | 0.2 | 0.4 | 0.3 | 0.0 | 0.0 | 43.2 | 4.7 | 58.0 | 6.1 | 3.6 | 3.8 | |
| Singapore-USA | 7.2 | 0.2 | 0.2 | 0.6 | 4.8 | 1.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 92.7 | 0.0 | 34.1 | 0.3 | 0.1 | 4.7 | |
| Australia-USA | 45.7 | 0.0 | 0.1 | 3.6 | 29.5 | 12.5 | 2.4 | 0.1 | 0.0 | 0.0 | 0.4 | 1.9 | 51.6 | 0.3 | 32.9 | 1.9 | 0.6 | 6.8 | |
| EU-EPA* | 42.5 | 11.3 | 7.2 | 11.7 | 10.8 | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 56.2 | 1.3 | 27.8 | 7.5 | 2.1 | 0.0 | |
| Japan-Singapore | 3.1 | 0.0 | 0.0 | 0.1 | 2.4 | 0.6 | 1.9 | 1.5 | 0.1 | 0.1 | 0.3 | 0.0 | 94.0 | 1.0 | 25.2 | 0.1 | 0.0 | 76.8 | |
| Japan-Mexico | 22.4 | 7.9 | 1.5 | 5.1 | 5.4 | 2.5 | 21.7 | 0.7 | 0.5 | 18.9 | 1.6 | 0.0 | 50.7 | 5.2 | 19.6 | 3.9 | 0.8 | 47.8 | |
| Australia-Singapore | 6.4 | 0.0 | 0.0 | 0.2 | 6.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 93.6 | 0.0 | 16.6 | 0.4 | 0.1 | 0.0 | |
| Brazil-MERCOSUR* | 85.4 | 25.4 | 37.1 | 21.1 | 1.0 | 0.8 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 13.9 | 0.7 | 15.1 | 16.4 | 2.5 | 0.1 | |
| India-Singapore | 20.0 | 0.0 | 0.0 | 8.7 | 6.6 | 4.6 | 16.2 | 0.1 | 0.0 | 15.0 | 1.0 | 0.0 | 59.6 | 4.3 | 13.9 | 1.0 | 0.1 | 68.4 | |
| Brazil-Mexico | 83.2 | 23.7 | 13.8 | 18.0 | 12.6 | 15.1 | 2.3 | 0.6 | 1.4 | 0.2 | 0.1 | 0.0 | 14.2 | 0.3 | 7.9 | 14.2 | 1.1 | 19.2 | |
| Non-reciprocal regimes | 17.6 | 0.1 | 0.9 | 1.4 | 6.3 | 8.9 | 26.3 | 1.0 | 4.4 | 4.3 | 7.2 | 9.5 | 55.6 | 0.5 | 2,067.3 | 0.6 | 11.8 | 77.2 | |
| EU-GSP | 13.3 | 0.0 | 0.1 | 0.7 | 7.3 | 5.2 | 23.0 | 0.6 | 5.1 | 3.8 | 7.8 | 5.7 | 63.4 | 0.3 | 1,011.9 | 0.4 | 4.2 | 82.7 | |
| US-GSP | 8.3 | 0.0 | 0.2 | 1.8 | 3.9 | 2.4 | 62.4 | 0.9 | 4.7 | 4.5 | 2.4 | 49.9 | 28.8 | 0.4 | 257.9 | 0.3 | 0.9 | 82.2 | |
| US-AGOA | 90.1 | 0.3 | 1.2 | 0.4 | 1.0 | 87.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 9.9 | 0.0 | 83.6 | 0.5 | 0.4 | 1.2 | |
| EU-GSP-PLUS | 29.7 | 3.0 | 8.3 | 10.0 | 5.7 | 2.7 | 9.7 | 9.0 | 0.0 | 0.0 | 0.4 | 0.2 | 60.1 | 0.4 | 38.0 | 2.9 | 1.1 | 53.8 | |
| EU-GSP-LDC | 33.0 | 0.9 | 27.4 | 3.1 | 1.0 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 66.0 | 0.9 | 32.8 | 4.1 | 1.4 | 0.0 | |
| US-Andean | 72.0 | 1.2 | 4.2 | 4.9 | 1.9 | 59.9 | 0.6 | 0.0 | 0.3 | 0.2 | 0.1 | 0.0 | 27.0 | 0.4 | 29.0 | 1.5 | 0.4 | 4.6 | |
| US-CBTPA | 40.9 | 0.6 | 3.5 | 12.1 | 0.7 | 24.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 58.9 | 0.2 | 11.2 | 1.6 | 0.2 | 0.0 | |
| US-LDC | 34.1 | 0.0 | 0.0 | 1.8 | 0.4 | 31.9 | 61.9 | 7.1 | 44.4 | 9.7 | 0.7 | 0.0 | 3.9 | 0.1 | 10.2 | 0.2 | 0.0 | 98.5 | |
| US-CBERA | 4.5 | 0.0 | 0.1 | 3.5 | 0.6 | 0.3 | 90.7 | 0.0 | 0.0 | 0.0 | 0.0 | 90.7 | 4.8 | 0.0 | 4.4 | 0.3 | 0.01 | 27.0 | |

Note: In some cases, trade and/or tariff data refer to the year 2006, 2007 or 2009, depending on data availability. EU-intra trade is shown separately from other reciprocal regimes. The aggregate figure for reciprocal trade is therefore without EU intra-trade. Only a selection of regimes is shown here. For one thing, this is due to gaps in the dataset, for instance missing data on preferential rates applied by Thailand for FTA partners outside ASEAN. Such regimes are therefore not shown. Some regimes are incomplete (marked by an asterisk “*”), because only one of two partners is covered by the dataset as an importer, which makes indicators for such regimes difficult to interpret. Intra-ASEAN figures only includes imports from the four ASEAN members that are covered by the data (Indonesia, Malaysia, Singapore and Thailand). EU-EPA only covers EU imports from EPA partners, not their imports from the EU. Brazil-MERCOSUR only covers imports from Brazil.

Sources: ITC TradeMap, WITS (TRAINS), UN Comtrade, US ITC, TARIC.

(iv) Preferential trade by country group

Table B.9 shows preferential trade by country groups (excluding intra-EU trade).⁵⁶ Imports by developed countries from LDCs enjoy relatively high preferences, with 15 per cent of such imports having a preference margin of 10 per cent or more. The trade-weighted preferential margin of 2.7 per cent for these imports is well above the global average. This does not mean that LDCs generally face lower duties. As is well known, some LDCs pay higher duties on average compared with developed-country trading partners, as LDCs often export products subject to tariff peaks (i.e. relatively high tariffs) and exempt from preferential treatment, such as garments. For example, Cambodia would pay a 15 per cent duty on its total merchandise exports without preferential tariffs, but still pays 11 per cent, assuming full utilization of preferences. By contrast, the EU and United States pay on average a 3 per cent duty on their exports after preferences are taken into account.

Such differences in tariff treatment, owing to the different product composition of developed- and developing-country exports and limitations in LDC preferential tariffs, have repeatedly been highlighted for specific markets in trade policy discussions. For example, Switzerland, which does not have a preferential tariff regime with the United States,

exports seven times more to the United States than Cambodia, but pays less than half of the duties levied on the latter (US\$ 194 million vs. US\$ 429 million). Total duties for Swiss imports are low, as Switzerland supplies the United States with a wide range of items, such as pharmaceuticals, medical technology and machinery, that face low or even zero MFN rates, unlike Cambodia that exports mainly textiles, only a fraction of which qualify for preferential tariffs.

(v) Preferential trade by product group

Table B.10 shows that tariffs and preference margins on traded items (excluding intra-EU trade) are considerably higher for agricultural products than for non-agricultural products.⁵⁷ Owing to the relatively low share of agriculture in international trade, large tariff reductions on certain agricultural products have little impact on the overall share of preferential trade, global average tariffs and the average trade-weighted preference margin. Relatively high tariffs and preference margins also exist for certain non-agricultural goods, such as fish, textiles and transport equipment. For trade in parts and components, which plays a role in regional production networks (see Section D), MFN tariffs and the share of preferential trade in overall trade are not very different from overall averages.

Table B.9: Preferential trade by country group, 2008

| Country group | Share of imports from countries receiving preferences (in per cent of total trade) | Share of trade by preferential margin (PM) and MFN rate (in per cent of total trade) | | | | | | | | | | | | | | | | Total trade (billion dollars) | Trade-weighted pref. margin (percentage points) | |
|---------------------|--|--|--------------|-----------------|----------------|---------------|--------------------------|-------|---------------|------------------|-----------------|----------------|------------------|-------|------------|----------|-----|-------------------------------|---|--|
| | | Preferential imports | | | | | Non-preferential imports | | | | | MFN zero | | | n/a | | | | | |
| | | Total | PM above 20% | PM 10.1% to 20% | PM 5.1% to 10% | PM 2.6% to 5% | PM 0.1% to 2.5% | Total | MFN above 20% | MFN 10.1% to 20% | MFN 5.1% to 10% | MFN 2.6% to 5% | MFN 0.1% to 2.5% | Total | with pref. | no pref. | | | | |
| TOTAL | 50.0 | 16.3 | 0.5 | 1.3 | 3.9 | 4.0 | 6.5 | 30.2 | 0.8 | 3.0 | 7.5 | 10.2 | 8.7 | 52.3 | 25.3 | 27.0 | 1.2 | 9,744.5 | 1.0 | |
| Importer – Exporter | | | | | | | | | | | | | | | | | | | | |
| North-North | 42.0 | 21.3 | 0.3 | 0.6 | 6.2 | 3.8 | 10.4 | 26.5 | 0.5 | 0.6 | 4.9 | 6.9 | 13.7 | 51.7 | 20.1 | 31.6 | 0.4 | 2,265.5 | 0.8 | |
| North-South | 74.3 | 18.9 | 0.5 | 1.5 | 2.4 | 6.3 | 8.1 | 24.9 | 0.7 | 3.6 | 4.3 | 6.2 | 10.2 | 55.6 | 40.8 | 14.8 | 0.5 | 3,399.5 | 0.9 | |
| North-LDC | 99.6 | 51.8 | 1.1 | 13.7 | 2.7 | 1.8 | 32.5 | 8.0 | 0.9 | 5.8 | 1.3 | 0.1 | 0.0 | 39.6 | 39.6 | 0.0 | 0.6 | 82.1 | 2.7 | |
| South-North | 21.2 | 12.0 | 1.0 | 1.9 | 6.7 | 1.7 | 0.7 | 45.8 | 1.6 | 5.9 | 18.6 | 15.3 | 4.4 | 39.0 | 8.2 | 30.8 | 3.1 | 1,628.9 | 1.8 | |
| South-South | 43.1 | 10.2 | 0.5 | 1.0 | 2.0 | 2.8 | 3.9 | 30.9 | 0.8 | 2.7 | 7.4 | 16.7 | 3.3 | 57.1 | 20.1 | 37.0 | 1.8 | 2,169.0 | 0.7 | |
| South-LDC | 46.3 | 5.0 | 0.3 | 0.8 | 1.1 | 2.4 | 0.5 | 13.3 | 0.6 | 0.3 | 1.1 | 10.0 | 1.2 | 81.1 | 33.3 | 47.8 | 0.6 | 64.3 | 0.4 | |
| Exporter | | | | | | | | | | | | | | | | | | | | |
| North | 33.3 | 17.5 | 0.6 | 1.2 | 6.4 | 2.9 | 6.4 | 34.6 | 0.9 | 2.8 | 10.6 | 10.4 | 9.8 | 46.4 | 15.1 | 31.3 | 1.5 | 3,894.4 | 1.2 | |
| South | 62.2 | 15.5 | 0.5 | 1.3 | 2.3 | 4.9 | 6.5 | 27.3 | 0.7 | 3.2 | 5.5 | 10.3 | 7.5 | 56.2 | 32.7 | 23.5 | 1.0 | 5,568.5 | 0.8 | |
| LDC | 76.2 | 31.3 | 0.7 | 8.0 | 2.0 | 2.1 | 18.5 | 10.3 | 0.8 | 3.4 | 1.2 | 4.4 | 0.5 | 57.9 | 36.8 | 21.0 | 0.6 | 146.4 | 1.7 | |
| ACP | 78.7 | 32.6 | 1.1 | 1.3 | 2.7 | 3.2 | 24.3 | 8.3 | 0.2 | 0.3 | 1.4 | 5.4 | 1.1 | 58.4 | 41.5 | 16.8 | 0.7 | 352.0 | 1.1 | |

Note: In some cases, trade and/or tariff data refer to the year 2006, 2007 or 2009, depending on data availability.

Sources: ITC TradeMap, WITS (TRAINS), UN Comtrade, US ITC, TARIC.

Table B.10: Preferential trade by product group, 2008

| Product group | Share of trade by preferential margin (PM) and MFN rate (in per cent of total trade) | | | | | | | | | | | | | | | | | | Total trade (billion dollars) | Trade-weighted pref. margin (% points) |
|-----------------------------------|--|--------------------|-----------------|----------------|---------------|-----------------|------------------------|---------------|------------------|-----------------|----------------|------------------|-------|------------|----------|-----|---------|-----|-------------------------------|--|
| | Total | Preferential trade | | | | | Non-preferential trade | | | | | MFN zero | | | n/a | | | | | |
| | | PM above 20% | PM 10.1% to 20% | PM 5.1% to 10% | PM 2.6% to 5% | PM 0.1% to 2.5% | Total | MFN above 20% | MFN 10.1% to 20% | MFN 5.1% to 10% | MFN 2.6% to 5% | MFN 0.1% to 2.5% | Total | with pref. | no pref. | | | | | |
| TOTAL | 16.3 | 0.5 | 1.3 | 3.9 | 4.0 | 6.5 | 30.2 | 0.8 | 3.0 | 7.5 | 10.2 | 8.7 | 52.3 | 25.3 | 27.0 | 1.2 | 9,744.5 | 1.0 | | |
| By Ag. vs Non-Ag. | | | | | | | | | | | | | | | | | | | | |
| Ag. | 24.1 | 2.9 | 4.5 | 6.2 | 5.3 | 5.2 | 36.4 | 8.3 | 5.0 | 7.5 | 10.4 | 5.1 | 35.1 | 20.2 | 14.8 | 4.5 | 519.0 | 4.0 | | |
| Non-Ag. – All | 15.9 | 0.4 | 1.2 | 3.8 | 3.9 | 6.6 | 29.8 | 0.4 | 2.9 | 7.5 | 10.2 | 8.9 | 53.3 | 25.6 | 27.7 | 1.1 | 9,225.5 | 0.8 | | |
| Non-Ag. – Textiles (ch. 61-64) | 30.7 | 1.8 | 16.1 | 3.7 | 3.5 | 5.6 | 59.7 | 4.1 | 34.3 | 18.6 | 2.6 | 0.2 | 8.5 | 0.8 | 7.6 | 1.1 | 329.6 | 3.2 | | |
| Non-Ag. – Fuel (ch. 27) | 12.9 | 0.0 | 0.0 | 0.3 | 1.6 | 11.0 | 23.4 | 0.0 | 0.0 | 0.7 | 8.9 | 13.9 | 63.4 | 39.2 | 24.3 | 0.2 | 2,230.0 | 0.1 | | |
| Non-Ag. – Fish | 36.7 | 3.1 | 7.1 | 10.8 | 8.6 | 7.2 | 33.5 | 0.3 | 5.9 | 8.7 | 13.1 | 5.6 | 29.5 | 18.6 | 10.9 | 0.2 | 72.8 | 3.1 | | |
| Non-Ag. – Other | 15.9 | 0.4 | 0.7 | 4.9 | 4.7 | 5.2 | 30.4 | 0.3 | 2.3 | 9.2 | 10.9 | 7.7 | 52.3 | 22.3 | 30.0 | 1.3 | 6,593.0 | 0.9 | | |
| By HS Section | | | | | | | | | | | | | | | | | | | | |
| 01' – Animal products | 28.6 | 3.6 | 6.6 | 6.8 | 4.4 | 7.3 | 41.9 | 10.4 | 6.7 | 6.4 | 12.8 | 5.6 | 27.3 | 14.6 | 12.7 | 2.2 | 123.4 | 4.9 | | |
| 02' – Vegetable products | 23.1 | 2.7 | 3.6 | 5.9 | 5.0 | 5.9 | 32.4 | 7.9 | 2.2 | 5.0 | 14.0 | 3.3 | 41.1 | 25.0 | 16.1 | 3.4 | 208.1 | 4.4 | | |
| 03' – Fats and oils | 30.5 | 1.0 | 1.6 | 11.9 | 13.9 | 2.0 | 47.8 | 4.8 | 1.6 | 29.1 | 8.9 | 3.3 | 19.7 | 13.2 | 6.5 | 2.0 | 43.3 | 2.4 | | |
| 04' – Prep. food, bev., tob. | 27.7 | 3.5 | 6.4 | 7.0 | 5.9 | 5.0 | 33.9 | 5.3 | 8.4 | 6.6 | 6.3 | 7.4 | 33.5 | 19.7 | 13.8 | 4.8 | 191.1 | 3.6 | | |
| 05' – Mineral products | 12.1 | 0.0 | 0.0 | 0.3 | 1.5 | 10.3 | 21.8 | 0.0 | 0.0 | 0.6 | 8.2 | 12.9 | 65.8 | 39.6 | 26.3 | 0.3 | 2,446.0 | 0.1 | | |
| 06' – Chemical products | 15.2 | 0.0 | 0.9 | 5.9 | 4.2 | 4.4 | 33.6 | 0.1 | 1.4 | 13.7 | 10.5 | 7.9 | 50.6 | 20.1 | 30.5 | 0.6 | 754.8 | 0.7 | | |
| 07' – Plastics and rubber | 33.6 | 0.1 | 2.0 | 15.7 | 11.3 | 4.5 | 47.3 | 0.3 | 4.2 | 22.8 | 16.2 | 3.8 | 15.9 | 7.6 | 8.2 | 3.2 | 336.7 | 2.0 | | |
| 08' – Leather | 22.7 | 0.4 | 0.3 | 2.7 | 12.0 | 7.3 | 53.1 | 0.7 | 11.5 | 17.9 | 21.1 | 1.9 | 24.2 | 4.7 | 19.5 | 0.0 | 63.1 | 0.9 | | |
| 09' – Wood and articles of wood | 20.9 | 0.0 | 1.0 | 5.6 | 11.2 | 3.1 | 20.4 | 0.0 | 1.3 | 7.4 | 11.3 | 0.5 | 58.3 | 35.9 | 22.5 | 0.3 | 71.8 | 1.1 | | |
| 10' – Paper | 8.9 | 0.2 | 1.8 | 5.1 | 1.3 | 0.5 | 12.6 | 0.1 | 1.9 | 4.4 | 5.7 | 0.6 | 77.6 | 41.5 | 36.1 | 0.9 | 129.1 | 0.8 | | |
| 11' – Textiles | 31.1 | 1.6 | 14.6 | 5.4 | 2.6 | 6.9 | 54.9 | 3.4 | 28.2 | 16.6 | 5.8 | 0.8 | 12.5 | 2.3 | 10.2 | 1.5 | 382.3 | 3.1 | | |
| 12' – Footwear | 21.7 | 0.6 | 0.9 | 5.7 | 13.3 | 1.1 | 62.1 | 3.9 | 14.8 | 35.7 | 7.4 | 0.3 | 12.4 | 1.4 | 11.0 | 3.8 | 70.6 | 1.3 | | |
| 13' – Stone, cement | 25.5 | 0.2 | 2.3 | 7.0 | 9.3 | 6.7 | 50.9 | 1.0 | 7.7 | 21.2 | 15.7 | 5.4 | 22.8 | 11.1 | 11.6 | 0.8 | 74.3 | 1.4 | | |
| 14' – Precious stones, jewellery | 7.3 | 0.0 | 0.3 | 1.2 | 1.7 | 4.0 | 21.8 | 0.1 | 0.6 | 9.9 | 8.0 | 3.2 | 70.9 | 34.6 | 36.2 | 0.0 | 257.1 | 0.3 | | |
| 15' – Base metals | 18.4 | 0.1 | 0.6 | 5.8 | 7.7 | 4.2 | 32.1 | 0.9 | 2.1 | 8.1 | 16.1 | 4.9 | 48.6 | 26.8 | 21.9 | 0.9 | 744.5 | 0.9 | | |
| 16' – Machinery | 10.8 | 0.0 | 0.5 | 2.1 | 3.8 | 4.4 | 24.1 | 0.0 | 2.4 | 6.0 | 8.0 | 7.7 | 63.8 | 25.7 | 38.1 | 1.3 | 2,547.9 | 0.5 | | |
| 17' – Transport equipment | 32.0 | 3.6 | 0.8 | 11.4 | 3.7 | 12.5 | 47.1 | 1.3 | 2.0 | 11.9 | 11.1 | 20.8 | 17.8 | 7.0 | 10.8 | 3.1 | 724.1 | 2.7 | | |
| 18' – Optical and other apparatus | 9.8 | 0.0 | 0.3 | 1.6 | 3.0 | 4.9 | 36.8 | 0.0 | 1.8 | 8.3 | 19.2 | 7.5 | 51.8 | 15.2 | 36.6 | 1.5 | 340.5 | 0.3 | | |
| 19' – Arms and ammunition | 12.9 | 0.0 | 0.5 | 2.9 | 5.5 | 4.0 | 45.6 | 0.5 | 0.7 | 8.6 | 21.7 | 14.0 | 38.4 | 7.6 | 30.8 | 3.1 | 6.6 | 0.6 | | |
| 20' – Miscellaneous articles | 11.3 | 0.0 | 0.9 | 2.9 | 6.1 | 1.3 | 26.1 | 0.5 | 3.4 | 4.5 | 16.4 | 1.3 | 62.4 | 27.1 | 35.3 | 0.2 | 213.1 | 0.6 | | |
| 21' – Art and antiques | 0.4 | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 | 1.2 | 0.0 | 0.0 | 0.4 | 0.7 | 0.0 | 98.4 | 19.5 | 78.9 | 0.0 | 16.1 | 0.0 | | |
| Parts and components | | | | | | | | | | | | | | | | | | | | |
| BEC-42-53 | 18.3 | 0.1 | 0.5 | 5.3 | 5.0 | 7.4 | 34.0 | 0.3 | 2.5 | 8.4 | 10.5 | 12.4 | 45.9 | 16.1 | 29.8 | 1.7 | 1,158.0 | 0.8 | | |
| SITC-Textiles | 31.1 | 0.3 | 2.6 | 12.6 | 6.6 | 9.0 | 47.6 | 0.3 | 5.8 | 26.4 | 13.3 | 1.8 | 20.5 | 2.8 | 17.7 | 0.9 | 83.4 | 1.9 | | |
| BEC-42-53 & Textiles | 19.1 | 0.1 | 0.6 | 5.7 | 5.1 | 7.5 | 34.9 | 0.3 | 2.7 | 9.5 | 10.7 | 11.7 | 44.3 | 15.3 | 29.0 | 1.7 | 1,238.7 | 0.9 | | |

Note: In some cases, trade and/or tariff data refer to the year 2006, 2007 or 2009, depending on data availability.

Sources: ITC TradeMap, WITS (TRAINS), UN Comtrade, US ITC, TARIC.

(vi) Recent trends

While the share of preferential trade with high margins is relatively small, it seems to have increased over recent years. A number of PTAs have been signed since 2008 that are not covered in the dataset. In terms of bilateral trade flows, the "largest" PTAs that have recently been signed are the agreements between China-Chinese Taipei, EU-Republic of Korea, US-Republic of Korea, Australia-New Zealand-ASEAN and ASEAN-Japan. These agreements are at different stages in the process towards full implementation. Detailed tariff schedules would be needed to see how these agreements would affect the overall share of preferential trade flows. In the absence of such data, a rough estimation can still be made.

Assuming constant trade flows, PTAs concluded after 2008 would increase the share of world trade among preference-granting countries from 50 to around 54 per cent (excluding trade within the EU). If bilateral tariffs were fully eliminated within these PTAs, the share of world trade covered by a positive preferential margin would increase from 16 to 18 per cent. Hence, while non-discriminatory liberalization in recent years has not kept pace with the proliferation of PTAs, further unilateral MFN tariff liberalization and notably the conclusion of the Doha Round would counter the recent upward trend of preferential trade.

(b) Customs data from the EU and US⁵⁸

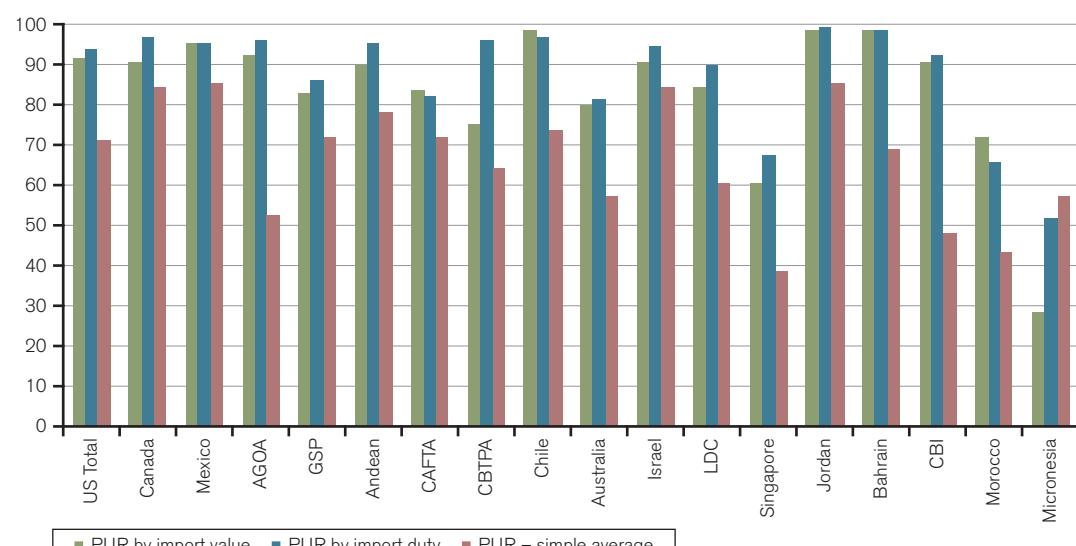
Data on the actual import values under different preferential regimes are available from the European Commission and the US International Trade Commission.⁵⁹ The preference utilization rate (PUR) is calculated as imports under a preferential regime

divided by eligible imports.⁶⁰ For both the EU and the United States, the PURs are surprisingly high at an aggregate 87 and 92 per cent respectively, weighted by preferential import values (see Figures B.13 and B.14).⁶¹ Utilization rates are high, not only in aggregate, but also for most exporting countries, preferential regimes and types of products. Both developed and developing country exporters have high utilization rates in both markets, with the former featuring slightly higher rates.

From Figure B.13, it can be seen that United States' imports from Singapore and Morocco show somewhat lower utilization rates. At the sectoral level, this is mainly driven by US imports of chemicals, in the case of Singapore, and garments and footwear from Morocco. For chemicals, a relatively low utilization may be due to a combination of low preference margins and the exigencies of rules of origin, while the latter may play the main role in the garments and footwear sectors. For the EU, utilization rates are relatively low for imports from Algeria and Jordan, which can principally be explained by imports from these countries being concentrated in oil products (Algeria) and plastics and chemicals (Jordan), where preference margins are low (see Figure B.14).

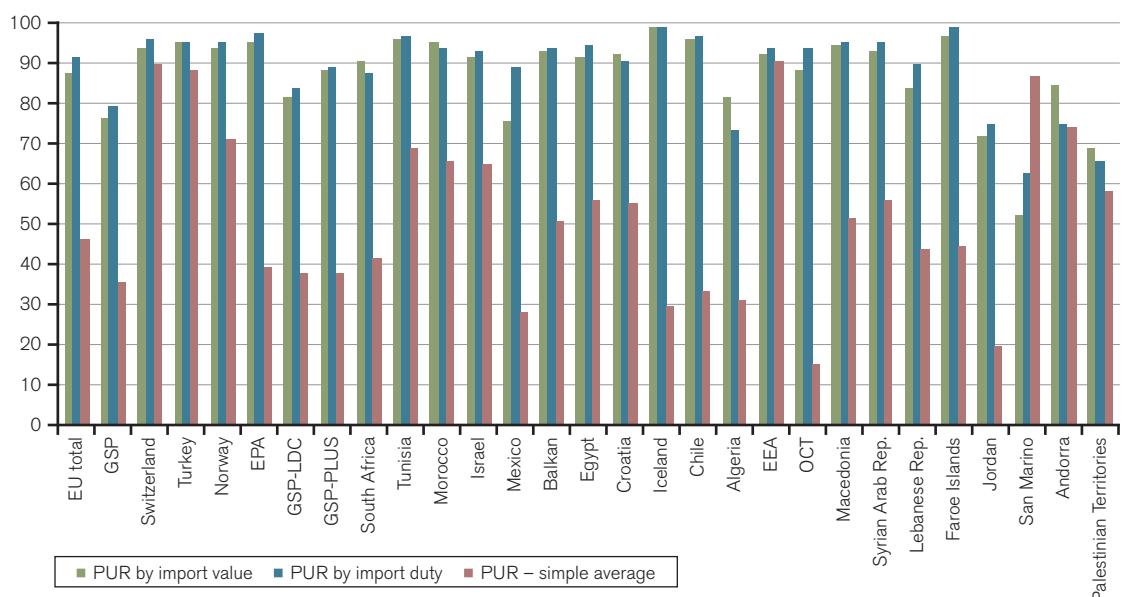
From Table B.11 it can be seen that preference utilization rates do not vary much across product groups. Not surprisingly, utilization is generally a bit higher for agricultural items (99 per cent in the United States), since tariffs are higher for these products. If utilization rates are examined for different ranges of preference margins, it appears that products with small preferential margins and small trade flows have lower utilization rates. Since using preferences can be costly (depending on the rules of origin and other requirements relating to proof of origin), traders would incur these costs only if benefits in terms of preference margins were sufficiently high.

Figure B.13: Preference utilization rate (PUR) of US preferential regimes (sorted by eligible exports), 2008 (Percentage)



Sources: ITC TradeMap, WITS (TRAINS), US ITC, TARIC.

Figure B.14: Preference utilization rate (PUR) of EU preferential regimes (sorted by eligible exports), 2008 (Percentage)



Sources: ITC TradeMap, WITS (TRAINs), US ITC, TARIC.

As it is reasonable to expect that preference utilization includes a fixed cost element, the rate of use should increase with higher trade values. These relationships are tested more formally by Keck and Lendle (2011). Using customs data from the EU and the United States, the authors estimate a simple empirical model of preference utilization at the product-country level using the preferential margin and import value as the main explanatory variables.⁶² As expected, they find that the preference margin has a positive and significant impact (at the 1 per cent significance level) on preference utilization, and similar results are obtained for import values.⁶³

Such factors seem to have less of an effect on utilization rates in the United States compared with the EU. In the United States, 55 per cent of all product-country observations for which the duties saved are below US\$ 10 are still imported under a preferential regime. The respective figure for the EU is only 13 per cent. However, many individual items imported to the EU and the United States facing tariffs well below 1 per cent still exhibit high utilization rates. For example, the PUR for EU imports of Swiss luxury watches ranges between 94 and 98 per cent, despite an *ad valorem* equivalent of only 0.02 to 0.08 per cent. This seems to imply that either the cost of using preferences in certain cases is negligible or that other benefits linked to using preferences exist, perhaps related to privileged customs clearance, qualification under specific security measures or advantages in case of re-export to other PTA partners. This would require further research.

(c) Data from firm surveys

In 2007-08, an Asian Development Bank (ADB) team randomly surveyed 841 export-oriented manufacturing enterprises, across a variety of industries,⁶⁴ in six East Asian economies⁶⁵ to gather firms' views on the utilization of PTAs (Kawai and Wignaraja, 2011). At the same time, the Inter-American Development Bank (IADB), in a project coordinated with that of the ADB, commissioned a survey of 345 firms in four Latin American countries (Harris and Suominen, 2009).⁶⁶ In the context of PTAs, Latin America and East Asia represent two important regions of the world. While the former has a long history of preferential agreements, the latter has witnessed a rapid spread of PTAs over the last decade, with the number of agreements in effect having increased from less than half a dozen to about 50 between 2000 and 2010 (Kawai and Wignaraja, 2011).⁶⁷

It is important to highlight the fact that these firm surveys estimate utilization of PTA preferences based on the incidence of firms – i.e. the share of sample firms in a given country that say they use FTA preferences. Data on shares of export value enjoying preferences are not available from these firms' surveys. Given the above, these data cannot be compared with preference utilization rates based on customs data. Furthermore, it is worth noting that in these surveys, firms were selected from a sample that comprised exporters from key industries in each economy, using a simple random sampling method (Kawai and Wignaraja, 2011). This could affect the aggregation of data across the different economies.

Table B.11: Preference utilization rate (PUR) by product group, 2008 (Percentage)⁶⁸

| | EU | | US | | | |
|--|---------------------|--------------------|----------------------|---------------------|--------------------|----------------------|
| | PUR by import value | PUR by import duty | PUR – simple average | PUR by import value | PUR by import duty | PUR – simple average |
| Ag./Non-Ag. | | | | | | |
| Ag. | 93 | 96 | 69 | 99 | 99 | 91 |
| Non-Ag. | 87 | 90 | 44 | 91 | 93 | 68 |
| HS Section | | | | | | |
| 01' – Animal products | 85 | 93 | 81 | 100 | 99 | 91 |
| 02' – Vegetable products | 93 | 97 | 71 | 99 | 100 | 91 |
| 03' – Fats and oils | 96 | 96 | 61 | 98 | 98 | 89 |
| 04' – Prep. food, bev., tob. | 91 | 96 | 70 | 98 | 99 | 93 |
| 05' – Mineral products | 80 | 79 | 48 | 89 | 91 | 67 |
| 06' – Chemical products | 85 | 91 | 55 | 92 | 92 | 76 |
| 07' – Plastics and rubber | 93 | 94 | 52 | 97 | 98 | 69 |
| 08' – Leather | 91 | 91 | 52 | 94 | 94 | 70 |
| 09' – Wood and articles of wood | 91 | 93 | 59 | 97 | 98 | 83 |
| 11' – Textiles | 85 | 88 | 54 | 87 | 87 | 67 |
| 12' – Footwear | 90 | 92 | 55 | 93 | 89 | 70 |
| 13' – Stone, cement | 92 | 93 | 53 | 96 | 96 | 79 |
| 14' – Precious stones, jewellery | 85 | 85 | 35 | 93 | 92 | 79 |
| 15' – Base metals | 95 | 96 | 46 | 95 | 94 | 75 |
| 16' – Machinery | 83 | 84 | 29 | 90 | 91 | 57 |
| 17' – Transport equipment | 91 | 93 | 37 | 97 | 98 | 60 |
| 18' – Optical and other apparatus | 82 | 79 | 20 | 76 | 80 | 57 |
| 19' – Arms and ammunition | 88 | 89 | 59 | 94 | 93 | 79 |
| 20' – Miscellaneous articles | 86 | 87 | 41 | 95 | 96 | 77 |
| <i>Note:</i> All products of HS Sections 10 and 21 have zero MFN duties in both EU and US and are therefore not shown. | | | | | | |
| <i>Sources:</i> ITC TradeMap, WITS (TRAINs), US ITC, TARIC. | | | | | | |

Results from the ADB surveys reveal that “preference utilization” by exporting firms in some PTAs are not high *per se*. For the sample of 841 firms in East Asia, the study by Kawai and Wignaraja (2011) shows that around 28 per cent currently use PTA preferences. However, this number nearly doubles to 53 per cent when plans for using PTA preferences in the future are factored in (see Table B.12).

Table B.12 shows that Chinese, Japanese and Thai firms are the highest users of PTA preferences, while plans for heightened preference use in the future are present in all six countries. The high level of PTA use among firms in China can be attributed to the determined build-up of new and expanding production networks that required channelling resources across the region. In Japan, a relatively high PTA use rate may be attributed to its giant manufacturing firms that are anchors for regional production networks, as well as to the many networks of private sector industry associations and public trade support institutions that provide services to help businesses adapt to PTA guidelines. Thailand's relatively high use of PTAs is likely to be the result of the country's emergence as a

regional production hub (e.g. for automotives), high rates of export-oriented foreign direct investment (FDI) and the government's reliance on PTAs as a trade policy tool.

In Latin America, the IADB survey of 345 firms suggests that only 18 per cent are not using any PTA, and that on average firms are using more than one (Harris and Suominen, 2009). These figures vary as one breaks down the sample by country, firm size, or industry. The least likely firms to be making use of PTAs were large textile firms in Panama (no use of PTAs), whereas large food and agriculture firms in Chile were most likely to be taking advantage of PTA tariff preferences (using 3.5 PTAs on average). Furthermore, of the firms not using any agreement, the overwhelming majority of them were Panamanian (57 of 61 firms were not using tariff preferences), which is easily explained by the fact that Panama does not have PTAs in force with any of their primary trading partners. A total of 98 per cent of firms surveyed in Chile, Mexico and Colombia were using preferences (Harris and Suominen, 2009).

Table B.12: Firms' utilization of PTA preferences
(Percentage of respondents)

| | Use PTAs | Use or plan to use PTAs |
|----------------|-------------|-------------------------|
| | % | % |
| All firms | 28.4 | 53.0 |
| Japan | 29.0 | 47.4 |
| China | 45.1 | 77.9 |
| Korea, Rep. of | 20.8 | 54.2 |
| Singapore | 17.3 | 28.0 |
| Thailand | 24.9 | 45.7 |
| Philippines | 20.0 | 40.7 |

Source: Kawai and Wignaraja (2011).

These firm surveys identify a number of factors that influence the preference utilization patterns described above. The following is a brief review.

(i) Margins of preference

The 2007-08 ADB survey of exporting firms in East Asia shows that 36 per cent of reporting firms in the Republic of Korea and 14 per cent in China cited "having had no substantial tariff preference or having had no actual benefits from such" as the major reason for not utilizing the PTA preferential tariffs. The relatively low rate of preference utilization in PTAs for the Philippines and Singapore can be attributed to the countries' overwhelming export concentration in electronics, which is characterised by low MFN tariff rates (Kawai and Wignaraja, 2011).⁶⁹

(ii) Rules of origin

Rules of origin (RoOs) are formulated in the context of PTA agreements to prevent "trade deflection"⁷⁰, in an effort to support a process of preferential trade liberalization. This is particularly important in the context of global production networks, which, through trade in intermediate goods, involve two or more countries in the production of a single final good. In reality, however, RoOs may result in far less trade liberalization than is implied by the preferences granted. This is because RoOs, when restrictive and complex, may raise transaction costs for firms to a degree that makes utilization of FTA preferences uneconomical (Manchin and Pelkmans-Balaoing, 2007; Tumbarello, 2007). It becomes especially likely given the low margins of preference described above. Furthermore, as the number of concluded agreements increases, different RoOs in multiple, overlapping PTAs can pose an additional burden on firms. This phenomenon is referred to as the "spaghetti bowl" of trade deals (see Box B.1 for a brief overview).

For a sample of 221 firms, Wignaraja et al. (2010b) show that around 15 per cent reported that RoOs in

Thailand's PTAs were an obstacle to using PTA preferences. In addition, another 22 per cent reported that RoOs might be an obstacle in the future. In the survey of 345 Latin American firms, 36 per cent reported that compliance with RoOs was not easy. This varied across countries, with nearly half of Mexican firms reporting difficulty with compliance, whereas only 27 per cent of Colombian firms encountered difficulties. However, when asked directly if the RoOs of an agreement had caused them to not use the available preferences, only about 10 per cent answered in the affirmative (Harris and Suominen, 2009).

Furthermore, studies based on firm-survey data found that relative to small and medium-sized enterprises (SMEs) and "giant" firms, large firms have more negative perceptions about RoOs (Kawai and Wignaraja, 2009; Wignaraja et al., 2010b). This may be explained by the following. First, as firms become larger initially, they begin exporting to multiple markets and hence meeting RoOs requirements becomes costly. Subsequently, however, as they become even larger, they acquire wider and deeper market penetration and hence greater wealth, which allows them to prove origin of goods more easily.

Survey results from East Asia also show that firms prefer greater flexibility and being able to choose between RoOs for the same product for two reasons. First, if they cannot meet one requirement, having another RoO increases their likelihood of using PTA preferences. Second, some RoOs may be better aligned than others with the technology, production processes and business strategies of particular industries (Kawai and Wignaraja, 2011). Of the 841 sample firms, 48 per cent of respondents preferred to be given the option of choosing between a domestic value content (VC) rule and a change in tariff classification (CTC) rule. Another 28 per cent chose the CTC rule only and 24 per cent chose the VC rule only (Kawai and Wignaraja, 2011). The CTC rule may be preferred to the VC rule because calculating the latter is time-intensive, and hence costly, and often requires the disclosure of confidential information on costs, components and procurement sources.

Based on a survey of 841 firms in six East Asian economies, Kawai and Wignaraja show that only 20 per cent of respondents reported that multiple RoOs significantly added to business costs. Singaporean firms had the most negative perceptions (38 per cent) while Chinese firms had the least negative (6.3 per cent). National PTA strategies, industrial structures, and the quality of institutional support may underlie differences in perceptions of RoOs across Asian countries. As the number of PTAs in the region increases, however, there may be a greater risk of an Asian "noodle bowl" effect in the future. For instance, Hirastuko et al. (2009) report that in Japan, while 28 per cent of the surveyed firms indicated that the

Box B.1: Rules of origin in PTAs: transaction costs and the spaghetti-bowl phenomenon

Rules of origin (RoOs) are likely to increase the transaction cost of trade because firms will have to alter their production methods (for example, source more inputs from PTA partners) from what may have been the least-cost choice and due to the administrative and bureaucratic costs associated with administering RoOs regimes. These latter costs relate to the fact that for a good to be granted originating status, the exporting firm needs to provide detailed documentary evidence in order to obtain the relevant certification. RoOs prescribe a detailed way in which a good needs to be transformed in the partner country in order to be exported to another PTA partner at the preferential rate. However, there is no single approach for defining "substantial transformation" (Estevadeordal, 2000).

The level of transformation is usually specified in terms of a minimum percentage of the final product value that has been added in the originating country,⁷¹ changes in tariff headings for a product under the Harmonized Commodity Description System in the originating country⁷², or through specific technical requirements relating to specific production process operations that a product must undergo in the originating country.⁷³ The different methods described above have been used in different ways, with different degrees of precision under different PTAs⁷⁴. For example, there is the Latin American Integration Agreement where a general rule, based on a change in tariff classification at the heading level or a regional value added of at least 50 per cent of the f.o.b. export value, is used for all items. In contrast, NAFTA incorporates a general rule combined with specific rules at the six-digit Harmonized System level, combining the three methods described above in a variety of ways (Estevadeordal, 2000). Importantly, the design of RoOs chosen determines the extent to which they increase the transaction cost of trade.

Furthermore, in the current sea of PTAs, there is often little consistency in the underlying RoOs across different products and different agreements. These two separate, but related, dimensions are an additional cost to firms. First, if the specification of the rule for a particular product differs across agreements signed by a country, firms must be able to understand the different rules, and then adapt their production networks to comply with each different rule. Second, even where the specification of the RoO for a given product is harmonized across agreements, each agreement covers a different set of partner countries. Hence, the materials that count as "originating" under one agreement may not be "originating" under another. For example, a Moroccan firm wanting to export a given product will have different RoO requirements and different administrative procedures depending on whether it is exporting the good to the United States, Europe or countries in the Arab region. This lack of compatibility between different RoOs in multiple, overlapping PTAs, referred to as the "spaghetti bowl" effect (Bhagwati, 1995), is likely to further increase the transaction costs of trade for firms.

existence of multiple RoOs leads to increased costs, this number rises to 61 per cent when the future is factored in. In Latin America, 30 to 45 per cent of the surveyed firms rated the "spaghetti bowl" costs from medium to very high.

Recognizing the above, around 41 per cent of firms in the ADB survey see the benefits from harmonized RoOs⁷⁵ in reducing "spaghetti bowl" costs and hence increasing preference utilization (Kawai and Wignaraja, 2011). In the IDB survey, this process of harmonized RoOs was recognized as having the highest potential for cost savings. Nearly a quarter of firms rated this as generating "high" or "very high" savings (ranging from 13 per cent of firms in Chile to 46 per cent in Panama) (Harris and Suominen, 2009).

What is more, the "spaghetti bowl" costs of PTAs may make it harder for firms to organize international production networks. Consider, for example, Japanese multinational companies (MNCs), which are a major driver of production networks in the East Asian region. In a firm survey carried out by the Japan External Trade Organization (JETRO) in 2006, of the 97 Japanese MNCs using (or planning to use) PTA

preferences in East Asia, about 30 per cent felt that the existence of multiple RoOs leads to increased costs to exporting, while another 33 per cent thought that it would do so in the future (Hirastuko et al., 2009).

Thailand is at the centre of production networks in the automobiles and electronics sectors, with five major PTAs in effect. In a 2007 ADB survey of 118 MNCs and domestic firms, 22 per cent report that multiple RoOs in Thailand's FTAs were an obstacle to using FTA preferences while another 23 per cent said multiple RoOs might be an obstacle in the future. Furthermore, it is worth noting that auto firms, with large amounts of components and parts trade, perceived multiple RoOs to be more of a problem (Wignaraja et al., 2010b).

In sum, it is both the design (the "transformation criterion" used and flexibility for firms to choose between different criteria) and the coherence (multiple RoOs in multiple overlapping PTAs) of RoOs that affect transaction costs and hence the utilization of preferences in PTAs. Furthermore, production networks that rely on international trade in

intermediate inputs for the production of a single final good are likely to be particularly affected by stringent and complicated RoOs in PTAs. The ADB firm survey in East Asia reveals that 31 per cent of respondent firms in the Philippines cite RoOs as the biggest impediment for not utilizing PTA preferences (Kawai and Wignaraja, 2011), while the IDB survey in Latin America shows that 29 per cent identify RoO issues as being “restrictive”.⁷⁶ These numbers suggest that while compliance with origin is a significant issue, the rules of origin are far from being a universal impediment.

(iii) Other firm-specific factors

Firm size

A classic firm size effect is visible in the underlying pattern of PTA preference use from the ADB and IDB firm surveys in East Asia and Latin America respectively. Relative to SMEs, large firms were more likely to use FTA preferences (Cheong and Cho, 2009; Hirastuko et al., 2009; Harris and Suominen, 2009; Wignaraja et al., 2010b). For example, Kawai and Wignaraja (2011) report that the size of Japanese firms that use PTA preferences have an average of 30,104 workers, while the average firm size is 3,542 in China; 1,098 in Singapore; 591 in Thailand and 395 in the Philippines. In contrast, the average number of employees for non-users is markedly smaller at 7,020 in Japan, 2,226 in China; 291 in Thailand; 269 in the Philippines and 142 in Singapore.

The higher utilization rates among large firms can be attributed to the following. First, using PTAs is likely to entail large fixed costs – learning about PTA provisions, adjusting business plans to complex tariff schedules, obtaining certificates of origin, etc. – and larger firms are better able than small firms to muster the financial and human resources to address these issues (Kawai and Wignaraja, 2011). Second, large firms are likely to realize larger gains from tariff preferences because they export more, often being a part of MNC-based production networks (Cheong and Cho, 2009).

Firm experience

Firm surveys carried out by the ADB and IADB in East Asia and Latin America respectively show a positive relationship between experience and the likelihood of a firm using a PTA. For example, Wignaraja et al. (2010a) show that in the Philippines, the probability of firms in the sample that are less than ten years old using the ASEAN Free Trade Agreement (AFTA) is about 10 per cent or less, while the probability for firms in operation for more than 25 years is more than 25 per cent. This may be because more experienced firms develop core capabilities, extensive supply networks and administrative capacity over time to better compete in the world market and take advantage of PTAs.

Foreign ownership

Firm survey results from East Asia show that users of PTA preferences in Japan and Thailand both have significantly higher foreign equity than non-users. On average, users in Japan have 9.8 times more foreign equity than non-users, while users in Thailand have 1.5 times more foreign equity than non-users (Kawai and Wignaraja, 2011). It is likely that access to the marketing know-how of their parent companies – including dealing with multiple tariff schedules and RoOs – makes foreign affiliates better placed to use PTAs than domestic firms.

Lack of information

PTA texts are complex legal documents which require legal expertise to improve understanding of the business implications of agreements. Hence, having detailed knowledge of how PTA provisions affect businesses is likely to have a significant effect on the use of PTA preferences. The ADB survey of firms in East Asia shows that PTA users in Japan, which has a relatively high preference utilization rate, have the highest knowledge levels (64 per cent). In contrast, in the Philippines, which has a relatively low preference utilization rate, only 7 per cent of users claim thorough knowledge (Kawai and Wignaraja, 2011). In fact, Wignaraja et al. (2010a) report that firms in the Philippines that are “aware” of FTA provisions have a predicted AFTA use rate of 40 per cent, compared with a mere 11 per cent for those that are less “aware”.

Furthermore, the ADB firm survey reveals that 70 per cent of responding firms in the Philippines, 45 per cent in China and 34 per cent in the Republic of Korea cited “lack of information about the conditions of the existing PTAs or about how to utilize them” as the biggest impediment for not utilizing PTA preferences (Kawai and Wignaraja, 2011).

5. Conclusions

PTAs existed long before the advent of the multilateral trading system. Already in 1860 the Cobden-Chevalier Treaty introduced a stronger trade relationship between France and Britain, helping to trigger a network of reciprocal and inclusive trade treaties – perhaps an early prototype of the GATT/WTO. This demonstrates that no simple divide exists between “regionalism” and “multilateralism”. Not surprisingly, therefore, the establishment of the GATT and its successor, the WTO, has not diminished the attractiveness of bilateral and regional approaches. The three waves of “regionalism” in the era after the Second World War were all driven, at least in part, by the desire to go “further and faster” than was occurring at the multilateral level.

On the basis of WTO data, this section has highlighted a number of stylized facts about the evolution of PTA

activity. The recent proliferation of PTAs to a significant degree comprises agreements between developing countries, cross-regional PTAs and bilateral arrangements. Growth has taken place both on the "intensive" and "extensive" margin, i.e. it involves both traditionally active PTA participants, such as the EU, Chile and Mexico, and "newcomers", such as Japan, other countries from Asia and the Middle East. Many of these agreements go beyond traditional market access commitments and cover a range of "behind-the-border" areas, such as intellectual property rights, product standards, competition and investment policies. Several reasons for these developments can be put forward and will be further explored in this report, but the emergence of international production networks is certainly one compelling explanation.

The need to look for alternative motivations for countries' unabated interest in PTAs has been demonstrated by statistics on the surprisingly low share of preferential trade in global trade, as well as the low preference margins involved. While trade between PTA members is growing as the number of agreements increases, the analysis presented in this section shows that given the considerable number of zero duty MFN rates in many countries and widespread product exclusions, only 16 per cent of world trade is eligible for preferential tariffs and less than 2 per cent is eligible to receive preferences with margins above 10 percentage points (30 per cent and 4 percentage points respectively if trade within the EU is included).

In other words, despite the explosion of PTAs in recent years, 84 per cent of world merchandise trade still takes place on an MFN basis (70 per cent if intra-EU trade is included). The global trade-weighted preference margin amounts to no more than 1 per cent (2 per cent

including trade within the EU). Even these low numbers must be seen as an upper limit, since preference utilization usually entails costs related to rules of origin and other administrative requirements that may frustrate the actual use of available preferences.

Simple empirical estimations using customs data from the EU and United States confirm higher utilization rates for higher preferential margins and trade values. This points to the influence of fixed costs on the use of preferences. However, preference utilization in the EU and the United States overall is fairly high, which seems to suggest that costs involved are rather modest and/or that demonstrating origin may be associated with other benefits. At the same time, firm surveys from East Asia reveal that the use of PTA preferences is not uniformly high. This suggests that costs relating to the design and coherence of origin rules, a lack of information, and other impediments affecting preference utilization are not universal. Rather, they are likely to vary by country, sector and firm.

In light of the limited scope for meaningful trade preferences, the ever-increasing number of PTAs points to other objectives beyond traditional market opening as drivers of PTA formation. It is a matter for debate as to how far the recent surge in PTAs is related to the slow pace of the Doha Round of trade negotiations and the complexities involved in reaching agreement in a multilateral setting. Some PTAs obviously go further than the WTO, both in the depth and breadth of their coverage. Subsequent parts of this report seek to shed further light on what motivates countries to pursue "deep integration" through PTAs, the policy areas covered, and the way these strategies operate in practice.

Endnotes

- 1 Multilateralism in international relations is typically defined as multiple countries working in concert on specific or general issues. The first modern instances of multilateralism occurred in early nineteenth-century Europe, with the creation of the Concert of Europe after the Napoleonic Wars, and then again in the period between the First and Second World Wars, with the creation of the ill-fated League of Nations. However, the most successful modern examples of multilateralism are generally considered to be the United Nations system, the Bretton Woods institutions, and the GATT/WTO, all of which trace their origins to efforts to reconstruct the international system after the devastation of the Second World War and the perceived failures of the League of Nations.
- 2 An early example was the 1703 Methuen Treaty between England and Portugal which, among other things, stipulated that Portuguese wines imported to England would be subject to a third less duty than wines imported from France, and that English woollen cloth imported to Portugal would enter duty free.
- 3 Fairly typical were England's Navigation Laws of 1712 – which were designed explicitly to restrict the use of foreign shipping between England and its colonies, as well as to secure colonial markets for English manufacturing, and to grant monopolies to colonial commodity suppliers (Dickerson, 1951).
- 4 The fact that the American Revolution was sparked in part by colonial resentment of the restrictive Navigation Laws was another factor which led to the system's demise – and the growing support for free trade – in the early nineteenth century.
- 5 For example, the Franco-Italian conflict (1886-95); the Franco-Swiss conflict (1892-95); the Russian-German conflict (1893-94); the Spanish-German conflict (1894-99); the Romania-Austro-Hungarian conflict (1886-93).
- 6 "Beggar-thy-neighbour" is an expression in economics describing policies that seek benefits for one country at the expense of others.
- 7 Belgium, Luxembourg, and Finland had also joined the Pact by 1933.
- 8 A key figure behind this shift in US trade policy towards greater liberalization and cooperation in trade was Cordell Hull, the US Secretary of State for much of Roosevelt's presidency, who tirelessly asserted his belief that "wars were often largely caused by economic rivalry conducted unfairly" and that if the world "could get a freer flowing of trade – freer in the sense of fewer discriminations and obstructions – (then) one country would not be deadly jealous of another and the living standards of all countries might rise" (Irwin et al., 2008).
- 9 In part, these regional agreements failed because they were based on a regional form of import substitution that inevitably led to conflict over trade diversion – each member wanted a regional market for its own inefficient industries, but was unwilling to buy the expensive or poor-quality import substitutes of their partners – while not having the political determination of the EEC which began life with the overarching objective of consolidating peace in the region (Pomfret, 2006).
- 10 Bulgaria, the Czech and Slovak Republics, Estonia, Hungary, Latvia, Lithuania, Poland, Romania and Slovenia.
- 11 The founding members of APEC were Australia, Brunei Darussalam, Canada, Indonesia, Japan, the Republic of Korea, Malaysia, New Zealand, the Philippines, Singapore, Thailand, and the United States.
- 12 In economics, a stylized fact is a simplified presentation of an empirical common finding.
- 13 The database is publicly accessible. For documentation of the database, see the WTO's Regional Trade Agreements Information System (RTA-IS), available at <http://rtais.wto.org/UI/PublicMaintainRTAHome.aspx>.
- 14 In the summary tables of the database, the total number of "physical" agreements are provided.
- 15 For example, the website "bilaterals.org" (accessed on 17 January 2011) claims to provide information on "everything that's not happening in the WTO". The Tuck School of Business at Dartmouth University also has a searchable global database on PTAs available at http://www.dartmouth.edu/~tradedb/trade_database.html, accessed on 14 January 2011. PTA databases with a distinct regional focus include the ones by the Inter-American Development Bank available at <http://www.iadb.org/datainl/Default.aspx>, accessed on 17 January 2011, and the Asian Development Bank available at <http://aric.adb.org/ftatrends.php> for PTA trends, and <http://aric.adb.org/indicator.php> for trade data by countries and groupings, accessed on 17 January 2011. Authors of empirical studies usually assemble their own up-to-date dataset on PTAs from a variety of such sources. See for instance, Hufbauer and Schott (2009), as updated by Baldwin and Jaimovich (2010).
- 16 See also Freund and Ornelas (2010) who find the same pattern, albeit with an extended version of the WTO database of notified PTAs and, therefore, report slightly different figures for the average number of PTA partners over time.
- 17 For a breakdown of PTAs by country group (developed, developing) and region see Table B.1 in subsection B.2 (b) below.

- 18 See ASEAN website at <http://www.aseansec.org/19585.htm>, accessed on 19 November 2010.
- 19 Of course the content of PTAs also matters with most CIS agreements involving only goods, whereas a range of Asian agreements cover both goods and services. The issue of deeper integration, notably in relation to the recent trends towards international production networks, is discussed further below in Section D.
- 20 While there is a large degree of certainty about the number of PTAs in force especially if they are notified to the WTO, figures on agreements under negotiation or signed agreements depend largely on whether the parties to these PTAs make such information available publicly. Information gathered on the latter is therefore less complete.
- 21 Also, the Trans-Pacific Strategic Economic Partnership (TPP) Agreement will consolidate a significant share of world trade.
- 22 The declaration to integrate COMESA, EAC and SADC at the Tripartite Summit on 22 October 2008 in Kampala, Uganda, with the ultimate goal to form an African common market by 2028 might foreshadow a reversal of this trend. See, for instance, SADC Today Volume 11 No. 3 of December 2008 at <http://www.sardc.net/editorial/sadctoday/view.asp?vol=720&pubno=v11n3>, accessed on 3 March 2011.
- 23 For an overview of strategic explanations of why countries decide to integrate through trade agreements, including across regions, see Ravenhill (2008: 2010). For further examples, see also Box 1 in Section C providing PTA case studies based on information collected in the context of WTO Trade Policy Reviews.
- 24 Freund and Ornelas (2010) show that the gap between CUs and FTAs may be much less severe if, for example, the average number of trading partners per WTO member is calculated. They find that FTA participants currently have about nine partners on average, compared to six for CU members. The relatively high average for the latter is driven by the fact that the EU, as one of the largest PTAs, is a customs union.
- 25 Product exclusions are more common in PTAs notified under the Enabling Clause, where a similar provision does not apply. For analytical purposes, PTAs covering only a selected number of products or sectors have been labelled "partial scope agreements" in Figure B.4.
- 26 The list of "products excluded" is constructed by classifying products that do not receive preferential tariff treatment in the first year of the PTA's implementation.
- 27 For instance, of all agriculture and food products represented in 20,915 tariff lines recorded in the sample, around 27 per cent are excluded from the provision of tariff concessions. In comparison, only around 1 per cent of manufacturing products (mostly labour-intensive products such as footwear and textiles) are excluded in the respective PTAs. This sectoral pattern may be attributable to the fact that agricultural products are sensitive products in these countries, intricately linked to the domestic political economy process (Grossman and Helpman, 1995).
- 28 Reviewing commitments undertaken by 36 WTO members under mode 1 (cross-border supply) and mode 3 (commercial presence), Roy et al. (2007) suggest that PTA commitments tend to go significantly beyond those in the GATS.
- 29 Agreements between important services exporters – apart from European integration agreements – include, for example, NAFTA, US-Australia, Japan-Switzerland, Singapore-US, China-Singapore, or China-Hong Kong, China.
- 30 The shares in this subsection differ somewhat from those in Table B.8, but the data are not strictly comparable. Shares in this section only include reciprocal regimes, whereas both reciprocal and non-reciprocal regimes are considered in Table B.8. Also, Table B.8 is based on reported data from 20 countries, whereas shares in this section are based on all available reporters in Comtrade. However, shares in both sections are of roughly similar magnitude.
- 31 See Section B.3. This figure covers only reciprocal agreements and excludes trade under non-reciprocal preference schemes. If non-reciprocal preferences are included as well, the share of trade (including intra-EU trade) between countries that have some kind of preferential relationship amounts to almost two-thirds of world trade (see Appendix Table 1).
- 32 For an estimate of the average cost margin related to the fulfilment of rules of origin requirements see, for example, Francois and Manchin (2007).
- 33 For a more extensive discussion of these data see Carpenter and Lendle (2010).
- 34 The sample of 20 counts the EU and its 27 members as one. Throughout the discussion, figures are given both with and without intra-EU trade.
- 35 For some countries, trade and/or tariff data are taken from the year 2006, 2007 or 2009, depending on data availability.
- 36 If only some tariffs within an HS sub-heading are zero, the calculation of averages at the HS-6 level would underestimate the share of MFN zero imports. This, in turn, implies that the share of preferential imports would be overestimated. For instance, using tariff-line data, the share of MFN zero imports is 57 per cent for the EU and 43 per cent for the US (see Appendix table 8 in the Statistical appendix). If HS-6 average tariffs are used instead, these shares drop to 46 per cent for the EU and 37 per cent for the US.
- 37 WITS is a software developed by the World Bank, in collaboration with various international organizations including UNCTAD, ITC, WTO and the United Nations Statistical Division. WITS provides access to major international trade, tariffs and non-tariff data compilations. See <http://wits.worldbank.org/wits>.
- 38 It is not shown whether the preferential rate is a zero rate or only a reduced rate. However, zero preferential rates are far more common than reduced rates.

- 39 The preferential margin (abbreviated "PM" in the tables) is the difference between the lowest applicable preferential tariff and the MFN rate. The trade-weighted preferential margin can simply be calculated as duty reduction divided by total trade, with "duty reduction" being the difference between MFN duties applicable if no preferences existed and duties applicable with full use of preferences. Preferential trade flows may be slightly overestimated, as the analysis assumes that preferences are fully utilized, which is not always the case. On the other hand, preferential trade under quota regimes, including preferential quota regimes, is not covered by the data, which leads to an underestimation of preferential trade flows. There are a number of other reasons why estimates shown here may not always be exact. Although the margin of error is likely to be very small for aggregated figures, more detailed results must be interpreted with care, as they may depend strongly, for example, on the estimated *ad valorem* equivalent for individual products.
- 40 In many countries, high MFN tariffs exist for items that are not heavily traded – often precisely because of these high tariffs or other trade barriers.
- 41 "Global" here implies that the average is calculated on the basis of the 20 importing countries examined here in relation to all of their trading partners.
- 42 With EU intra-trade, the global trade-weighted average tariff is reduced by two percentage points (from about 3.5 to 1.5 per cent).
- 43 The corresponding numbers with EU intra-trade are 64 per cent of world trade that is with countries receiving preferences and about half of this (30 per cent of all trade) that is preferential.
- 44 Singapore applies a zero MFN duty for all products except for a handful of alcoholic beverages, which then usually enter duty-free under Singapore's PTAs. See Appendix Table 1 for Singapore and more country-specific data.
- 45 Of course, this assumption is unrealistic, as trade flows would change in the absence of preferences. However, proceeding in this way allows for the calculation of a counterfactual estimate of "duties saved" due to preferential agreements.
- 46 The trade-weighted preferential margin gives the average margin over all exports or imports, and not the average margin over preferential trade. However, the latter can be easily calculated by dividing saved duties over preferential trade. On a global level (without intra-EU), the trade-weighted preference margin is 1.0 per cent, but the average margin for preferential trade (which is 16 per cent of all trade) is 6.0 per cent.
- 47 The data are based on imports from trading partners (mirror data). Since the dataset only includes imports from 20 countries, not all exports from the 30 listed countries are included. Overall, approximately 89 per cent of exports are covered. Coverage of individual countries can be seen in Appendix table 8 (see the Statistical appendix). All indicators are calculated using the available data and are not adjusted for the degree of coverage of the data. It should also be recalled that here the focus is only on the preferential margin faced by individual exporters without taking into account the market access conditions for competing products from third countries. This is done in Section D (see Box D.1), where "competition-adjusted" preference margins are calculated as the percentage-point difference between the weighted average tariff rate applied to the rest of the world and the preferential rate applied to the beneficiary country, with weights being the trade shares in the preference granting market.
- 48 Most of the Bolivarian Republic of Venezuela's exports are non-preferential and face low MFN tariffs. These are mainly crude oil exports to the US, which are subject to a very low specific tariff ($AVE < 1\%$).
- 49 In Figure B.12, non-reciprocal regimes matter only for Bangladesh, Cape Verde, Haiti, Lesotho, Madagascar, Malawi, the Maldives, Samoa and Senegal, taking as a criterion that at least 40 per cent of duties saved are related to non-reciprocal preferences received. Over time, these preferences may be eroded as the countries to which they export enter into more PTAs. See the discussion in Section D.1 which examines the effect of entry of more preferential competitors on an exporter's margin of preference.
- 50 Again, it should be noted that the data cover only exports to the 20 largest importers. Some countries enjoy additional preferences in smaller markets in their region that are not covered in the dataset; hence the average margin for these countries could be higher.
- 51 The trade between each country pair and in each direction is labelled as belonging to a specific regime. In the case of overlapping preferences, the most generous preference scheme is considered for labelling purposes. However, all existing preferences are included in the dataset and it is assumed that the best applicable tariff rate is used for each product.
- 52 It should be recalled that the dataset only covers imports from four major ASEAN members (Indonesia, Malaysia, Singapore and Thailand).
- 53 This is why this indicator is 100 for MFN and zero for EU intra-trade. It should also be recalled that in PTAs preferential rates are commonly zero rather than simply reduced rates.
- 54 Even with a very low share of non-preferential trade, a preferential regime could still have many exemptions on items that are not heavily traded (e.g. because of high tariffs). One example is the EU-Switzerland FTA, which excludes many agricultural products.
- 55 In other words, reciprocal regimes account for 0.9 percentage points of the 1 per cent global trade-weighted preference margin, while non-reciprocal regimes only contribute 0.1 percentage points. The individual numbers for the 20 importing countries contained in the dataset are provided in Appendix table 11 (see the Statistical appendix). In general, with the exception of Japan, reciprocal preferences granted are much more important. In the Appendix, besides the share of duties saved due to reciprocal regimes (88 per cent), the share of reciprocal preferential trade in preferential trade is also provided, which is somewhat lower, but still high at 77 per cent.

- 56 For the purpose of this calculation, the following countries and territories are considered developed countries (“North”): Andorra, Australia, Canada, the EU and its members, Faroe Islands, Gibraltar, Iceland, Japan, New Zealand, Norway, Switzerland (with Liechtenstein) and the United States. The remaining countries are considered developing countries (“South”) or LDCs. The category “South” comprises only non-LDC developing countries; LDCs are shown separately. ACPs and LDCs overlap. LDCs do not appear as importers because none of the 20 importers included in this dataset is an LDC. Cape Verde, although graduated, has been included in the list of LDCs because it continues to receive LDC preferences.
- 57 The picture is similar within the EU. Agricultural products have trade-weighted margins of well above 10 per cent. Other sectors with high margins are textiles and footwear (9 per cent) and transport equipment (8 per cent). There is a fairly high share of trade for which duties are not available, mainly due to specific tariffs. This means that the trade-weighted margin is likely to be underestimated. Imports under quota regimes are reflected in the data.
- 58 For a more extensive discussion see Keck and Lendle (2011).
- 59 For the EU, disaggregated import data by preference eligibility and import regime is taken from Eurostat. The import data is then matched with MFN and preferential tariffs from the TARIC database (as of mid-2008). Similarly disaggregated import data for the US is provided by the USITC, which is then matched with the US tariff schedule for 2008 and complemented from other sources, notably MacMap.
- 60 An import is considered eligible for a particular preference if the product from the exporting country can receive a preference according to the tariff schedule. See, for example, also Dean and Wainio (2006). Country- and product-specific exemptions are taken into account.
- 61 Preference utilization rates (PUR) can be aggregated over exporters and products in different ways in order to determine average utilization rates. First, average utilization rates “by import value” are weighted by the value of preferential imports divided by the value of eligible imports. Secondly, average utilization rates “by import duty” are weighted by the duties saved for preferential imports divided by the duties that could be saved for all eligible imports. Finally, simple average utilization rates are calculated as the average of all observed utilization rates at the product-exporter level. The latter measure is somewhat problematic, since simple averages should only be determined across individual transactions in order to obtain the actual share of import transactions using preferences, and not across product-exporter combinations. Thus, the simple average here is typically upward biased, since preferences are not used in many small transactions.
- 62 When PUR in the EU and US (calculated as described in footnote 47 above) is used as the dependent variable, values range from 0 to 100 per cent. The dataset used contains around 126,000 observations for the EU and around 38,000 for the US. Forty-two per cent of the observations for the EU show zero utilization and 18 per cent full utilization. The exact reverse is true for the US, which implies around 40 per cent uncensored observations overall. Moreover, in the absence of transaction level data, the authors obtain as a (rough) proxy a zero/one indicator for preference utilization by using aggregated preferential as well as aggregated MFN flows at the product-country level. This transformation of the data brings the number of observations to over 175,000 for the EU and 53,000 for the US. However, it needs to be kept in mind that these observations are based on an aggregate of an unknown number of individual transactions. Product-specific as well as regime-specific effects are controlled for.
- 63 Results change little when outliers are removed, i.e. observations with either very large preferential margins (> 50 per cent) or very small import flows (< \$ or €10,000) or both. A range of papers exist that obtain similar results finding that preference utilization rates are generally rather high and vary positively with export size and preferential margins. See for instance, Hakobyan (2011), Dean and Wainio (2006), Manchin (2005), Candau and Sébastien (2005) and Brenton and Ikezuki (2004). However, most of the existing papers focus on a specific preference regime. The main disadvantage of defining utilization rates for specific regimes is that it can give the misleading impression that its overall utilization is low, even though it may be used a lot more if an alternative scheme did not exist. By contrast, Keck and Lendle (2011) take into account the whole array of preferential regimes by the EU and US.
- 64 The multi-country survey’s participating firms were from the electronics sector (33 per cent), followed by the automotive (21 per cent) and textile and garments (17 per cent) sectors. The remaining firms were exporters of chemicals and pharmaceuticals, metals and machinery, and processed foods.
- 65 Japan, China, the Republic of Korea, the Philippines, Singapore and Thailand
- 66 Chile, Colombia, Mexico and Panama
- 67 See also Table B.3.
- 68 All products of HS Sections 10 and 21 have zero MFN duties in both EU and US and are therefore not shown.
- 69 But it could also reflect a self-selection bias, if a high proportion of the sample firms in these countries belonged to the electronics sector.
- 70 Refers to the rerouting of goods, whereby in PTAs which are not customs unions – members maintain their own external tariffs – imports of any particular product would enter the country with the lowest import duty on the item in question and be re-exported to other countries in the PTA.
- 71 Defined, relative to unit cost or price.
- 72 For example, in the US-Canada FTA, the production of aged cheese from fresh milk does not confer origin (Krishna and Krueger, 1995).

- 73 For example, in the case of American imports of apparel under NAFTA, preferential treatment is given only if each step of the transformation from raw material to finished garment has been undertaken within the FTA (Krishna and Krueger, 1995).
- 74 In the case of trade in services, PTA provisions have mainly sought to establish the origin of service providers because the need for physical proximity between service producers and consumers implies a strong link between the service and its supplier. For example, PTAs often require that enterprises eligible for concessions are incorporated under the laws of one of the partner countries, and that eligible individuals be citizens or residents of one of the countries. Alternatively, enterprises may be required to have "substantive business activities" within the region and individuals are expected to have their "centre of economic interest" there (Fink and Jansen, 2009).
- 75 This is referred to in the literature as "diagonal cumulation" (Estevadeordal and Suominen, 2004; Gasiorek et al., 2009) – see Section C.
- 76 A larger percentage of firms in Chile and Mexico that have FTAs with large developed countries (the US and the EU, among others) report RoOs to be "restrictive", relative to Colombia and Panama.

C. Causes and effects of PTAs: Is it all about preferences?

A vast literature in economics and political science focuses on the causes and effects of preferential trade agreements – and in particular on the way that border measures, such as tariffs, impact trade flows among countries both inside and outside such agreements. Often referred to as the “standard analysis of preferential trade agreements”, this literature is discussed in detail in Sections C.1 and C.2. However, many recent regional agreements have moved beyond border measures to include deeper forms of rules and institutions that can only be partly understood by the standard analysis of preferential trade. An examination of the economic motives – and the key issues – that lie behind these deeper integration agreements is discussed in Section C.3.

Contents

| | |
|--|-----|
| 1. Motives for PTAs | 94 |
| 2. The standard economics of PTAs | 100 |
| 3. Going beyond the standard analysis | 109 |
| 4. Conclusions | 114 |
| Technical Appendix: Systemic effects of PTAs | 118 |

Some key facts and findings

- PTAs now cover a wider number of issues – beyond tariffs – and involve more structured institutional arrangements.
- Global production networks increase the demand for deep agreements since they provide governance on a range of regulatory issues that are essential to the success of the networks.
- Deep integration agreements can complement rather than substitute for the process of global integration.
- Economic theory needs to go beyond the standard trade-creation and trade-diversion analysis of PTAs, which is about the impact of preferential tariffs.

1. Motives for PTAs

Economists and political scientists have identified several rationales for preferential trade agreements – a brief overview of which is provided below.

(a) Neutralizing beggar-thy-neighbour trade policies

Economists have long recognized that trade policy can have “beggar-thy-neighbour” effects. That is, protectionist trade measures can be unilaterally attractive but multilaterally destructive. Specifically, the beggar-thy-neighbour problem is based on the idea that trade policy decisions of one country affect the welfare of another country through an international externality (i.e. a cross-border effect). The economic literature has highlighted two main effects associated with trade policy: the terms-of-trade effect and the production relocation effect. These are discussed in more detail below. Independently of how one country's trade policy affects its trading partners, a trade agreement is a means of neutralizing negative cross-border effects.

The main logic of the terms of trade (or traditional) approach is that countries that have market power (i.e. that can influence their terms of trade) cannot resist the temptation to act non-cooperatively. As noted by Johnson (1953), each country sets trade policy in an attempt to improve its terms of trade (i.e. lower the costs of its imports relative to exports) and increase national income.¹ However, the resulting non-cooperative (Nash) equilibrium is inefficient, as each country's terms-of-trade-enhancing unilateral actions are cancelled out. More restrictive trade policies by all countries have little net effect on the terms of trade, but lead to a contraction of trade volumes which reduces aggregate welfare – a situation referred to as a terms-of-trade-driven Prisoners' Dilemma (Bagwell and Staiger, 1999).

The terms-of-trade effect may not be the only relevant externality associated with trade policy. Trade policy may also try to expand domestic production in a sector to the detriment of foreign production by changing relative prices. This is referred to as the “production relocation effect” (Venables, 1987). Like a terms-of-trade-driven Prisoners' Dilemma², if all governments choose trade policies aimed at attracting more production, no government actually succeeds. In equilibrium, production does not relocate across countries, but trade falls in response to the rise in restrictive trade measures. To put it differently, countries are stuck in a production relocation Prisoners' Dilemma.

These non-cooperative situations can be avoided through a trade agreement among countries which encourages them to cooperate rather than to act

unilaterally.³ An important question is whether such an agreement should be at the regional or at the multilateral level. Studies by Bagwell and Staiger (2003) and by Ossa (2010) show that a multilateral trade agreement based on simple rules that allow countries to coordinate tariff reductions and reciprocate market access is the first-best option to neutralize negative (terms-of-trade or production relocation) externalities.

If a multilateral trade agreement such as the GATT/WTO is in place, there is no rationale for signing a preferential trade agreement (PTA)⁴ – and WTO members would have little incentive to form PTAs to solve these types of coordination problems.⁵ However, in the absence of multilateral trade cooperation, countries may seek a preferential agreement to limit cross-border effects associated with trade policy.

(b) Gaining credibility

Aside from avoiding the temptation to adopt “beggar-thy-neighbour” trade policies, preferential agreements may also serve as instruments to stop governments from implementing “beggar-thyself” policies. By this it is meant that a government may choose to “tie its hands” and commit itself to trade openness through an international agreement in order to prevent future policy reversal that might be convenient in the short run, but inefficient in the long term. In other words, the government understands that an agreement can help it to make more credible policy commitments than it would otherwise be able to make.

Specifically, a government might sign a PTA to solve some form of time-inconsistency problem.^{6,7} The different mechanisms through which a time-inconsistent trade policy may lead to inefficiencies have been highlighted in a number of studies (Staiger and Tabellini, 1987; Matsuyama, 1990; Amin, 2003). In these models, the government wants to use discretionary trade policy to increase social welfare (for example, in response to an unexpected event, to allow temporary protection to an infant industry, etc.). However, the use of trade policy can alter the normal behaviour of participants in an economy since agents can anticipate the policy change, and react to it in ways that will reduce the policy's impact on them. This implies that the government will not be able to use discretionary trade policy as originally intended, resulting in a socially inefficient trade policy.

Similar credibility problems emerge when a government is exposed to political pressures from domestic interest groups lobbying for protection (Maggi and Rodriguez-Clare, 1998). The presence of import restrictions will reward import-competing producers and will divert investments from other economic activities. The cost of this distortion may be large in the long run, but in the short run domestic lobbying by the import-competing sector will prompt

the policy-maker to set high restrictions. In these circumstances, Maggi and Rodriguez-Clare (1998) identify two reasons why a government may want to commit to a PTA: first, to minimize the costly long-term distortions involved with protecting a politically organized sector, where the country has no comparative advantage and it is unlikely to gain it in the future; and, secondly, to avoid a costly delay in the adjustment process of the declining sector relying on government protection.

These theoretical results contain a clear normative implication: governments should undertake binding trade policy commitments concerning their future behaviour. A trade agreement, in addition to facilitating policy cooperation as emphasized above, may have precisely this commitment role, as it reduces or eliminates the signatory governments' discretionary power in setting tariffs, and raises the costs of resorting to unilateral trade protectionism. This provides a welfare-improving way to enforce domestic commitments to a policy of trade openness.⁸

An important question is whether a PTA may provide more credibility than a multilateral treaty – in other words, would a WTO member choose to sign a PTA to improve further the credibility of its policy vis-à-vis the private sector. One possibility is that a country may be too small in world markets for other countries to care about its GATT/WTO violations, whereas a country that has preferential access to that country has a particular stake in making sure that this preferential access is maintained. This provides a possible reason why a small country seeking to tie its hands through a trade agreement – and thereby increase its credibility with its own private sector – might naturally look to a PTA in addition to GATT/WTO commitments.

(c) Other economic motives

There are several other economic reasons why countries opt to form PTAs, some that mirror the motives discussed above and others that are sometimes referred to as "non-traditional" motives (Fernandez and Portes, 1998). These are briefly reviewed below. They include, but are not limited to, increasing market size, increasing policy predictability, signalling openness to investors and achieving deeper commitments.

Increasing market size can be a reason for establishing PTAs since it enables firms from signatory states to exploit economies of scale and to gain a relative advantage over excluded competing firms. In addition, preferential access to a larger market may increase a country's attractiveness as a destination for foreign direct investment (FDI). Both reasons are particularly valid for small economies, which may help to explain why these countries agree to make concessions on other more controversial issues, such as intellectual property rights or environmental standards, when negotiating PTAs with large economies.

Related to the time-inconsistency issues addressed above, a trade agreement may also be signed to reduce uncertainty on future trade policy, thus sending an important signal to investors. Since future administrations might have policy preferences that differ from those of the current administration, a government may sign a PTA in an attempt to lock-in its policies (for example, a pro-open trade policy) and to diminish the likelihood that they might be reversed. In this way, the government addresses not so much the issue of policy credibility as the issue of policy predictability (Fernandez and Portes, 1998).

A country with a reputation for protectionism might find it particularly valuable to signal its willingness to shift towards a more liberal and business-friendly policy. In this case, the precise provisions of a PTA are less relevant than demonstrating to investors that the current government is open to business. Alternatively, a country might want to enter into a PTA to signal that its economy, or a particular sector, is competitive.

Economic analysis often overlooks the simple fact that trade policy is decided in a political environment, and governments may face incentives that differ from simple welfare considerations. However, some recent economic literature has emphasized the role played by special interest groups in trade policy determination.⁹ Simply put, interest groups lobby to influence government decisions and, in turn, governments trade off the welfare effects of their trade policy choices (e.g. signing or not signing a PTA) with the political support of special interests. In this political context, the choice to sign a preferential agreement may be driven by the interests of an organized lobby rather than by social welfare considerations (Grossman and Helpman, 1995).¹⁰

A final argument for signing a PTA relates to the need to achieve a deeper form of integration which goes beyond traditional trade (i.e. border) measures such as tariffs (Lawrence, 1996). This deeper integration may require institutions and levels of policy coordination that can be more easily achieved at the regional than at the multilateral level.¹¹ This issue will be more extensively discussed in Section C.3.

(d) Political motives

The creation of PTAs cannot be fully understood without considering the political context within which they are formed. Political science has provided additional explanations for why states might engage in PTAs, focusing in particular on the role of political integration, domestic politics, forms of governments, institutions, diplomacy or the influence of power and ideas. Some of the most important "political" arguments for PTAs are discussed briefly below.

Preferential trade agreements have long been seen as playing a key role in regional political integration.

Perhaps the best modern example was the formation of the European Community (EC) in the 1950s which, at the time, was the most important PTA in the world and attracted considerable attention from political scientists. Initially, "functionalist" scholars, inspired by the logic of integration, emphasized the importance of bureaucratic actors as key drivers of integration, as well as the process by which national elites transferred loyalties to a supranational level (Mitrany, 1943; Haas, 1958; Sandholtz and Zysman, 1989).

It was postulated that a policy spill-over effect would incrementally drive integration from "low politics" (trade integration) to "high politics" (political integration). This "functionalist" school of thought was later challenged by political scientists who marshalled empirical evidence that cast doubt on the extent of spill-overs and helped explain the stagnation in the European integration process. Proponents of an "inter-governmentalist" theory argued that national preferences were more relevant in shaping the pace and content of political and economic integration, and questioned whether there had been a significant transfer of control from member states to Community institutions (Hoffmann, 1966; Moravcsik, 1998).

To help explain the increasing number of trade agreements elsewhere in the world, political theorists first attempted to apply the European integration models. However, the limits soon became obvious. Trade integration outside Europe proceeded according to different patterns and concomitant political integration was lacking. Additional strategic explanations emerged. These included a desire to increase influence in international negotiations by pooling resources (e.g. the Caribbean Community), see Andriamananjara and Schiff (2001), or the goal of resisting the threat of communism in South-East Asia, by strengthening cooperation among like-minded governments (e.g. the Association of Southeast Asian Nations) for an overview, see Ravenhill (2008). Another strategic motive for forming regional trade agreements was to counteract the growth of other regional arrangements. For example, Asia-Pacific Economic Cooperation was widely seen as an attempt by the US to send a pre-emptive trade policy signal to the European Community about the cost of building a "Fortress Europe".

Existing research has shown that democracies are more likely to form PTAs among themselves (Mansfield et al., 2002). One explanation is that democratic governments use trade agreements as a signalling device vis-à-vis domestic constituents that they are implementing sensible policies. Related research looks at how governments calculate the political costs and benefits of PTAs, and how voters hold their political leaders accountable. The work by Mansfield et al. (2007) suggests that a country's decision to enter into PTAs is related to the number of internal veto players (i.e. lawmakers or parliamentarians). In addition,

Mansfield and Milner (2010) show that the number of veto players in a country affects the transaction costs of an agreement. As the number of veto players increases, ratification becomes less likely.

While veto players diminish the likelihood of entering PTAs, the regime type (democracy) affects the ratification rate positively. Mansfield and Milner (2010) argue that PTAs can serve as a strategic tool vis-à-vis voters. In other words, PTAs can act as a credible signal that governments can use to pursue trade objectives preferred by a majority of voters rather than by special interests. According to this view, the spread of democracy since the 1980s, especially across the countries of Latin America, Asia, and Central and Eastern Europe, may help explain the proliferation of PTAs.

The decision to negotiate and sign PTAs may also be affected by the extent to which countries use trade policy to reinforce wealth and empower relations. If governments distrust one another, they may form bilateral treaties in order to limit or to control the growth of other powers (e.g. to serve as counter-balances). Gowa and Mansfield (1993) and Gowa (1994) argue that trade integration stimulates trade flows between two countries, leads to a more efficient allocation of resources and thus frees up resources for military use. The increasing wealth and power of member countries should be of concern to excluded countries. An agreement between two countries may thus force other pairs of countries to follow suit, with the aim of retaining their current relative position (Gowa and Mansfield, 1993).

In a similar vein, the design of PTAs is also indicative of power relations. Stronger states can more easily dictate the terms of agreements in a bilateral or regional context. Other diplomatic and foreign policy considerations may influence the decision to form PTAs. For instance, some states use PTAs to reward allies and to reinforce key alliances. In this view, PTAs are an active part of foreign policy making (White, 2005; Rosen, 2004; Higgott, 2004; Capling, 2008).

PTAs might also serve as "diffusion mechanisms" – either directly, in the form of coercion, or more indirectly, in the form of learning. For example, a growing body of work treats the EU as a "conflicted power" (Meunier and Nicolaidis, 2006), which uses its market power (i.e. access to the EU's single market) to coerce weaker powers, including former colonies, into accepting new types of trade arrangements (Farrell, 2005) (for example, European Partnership Agreements with the African, Caribbean and Pacific group of states). Others consider that the European Community provided an example for economic integration among countries in Latin America and Africa in the 1960s (Pomfret, 2001), demonstrating how the perceived success of trade arrangements "teach" others to adopt similar policies (Krueger, 1997).

Finally, there may be a direct or indirect relationship between the formation of PTAs and the multilateral system, either reflecting a lack of progress at the multilateral level or a strategy to improve states' leverage in the WTO. Gridlock or stagnation in multilateral negotiations, for example, may create incentives for states to pursue preferential trade liberalization, and encourage exporters to lobby their governments for PTAs (for example, see case studies in Capling and Low (2010), where policy communities note both the "remoteness" and "slowness" of the WTO). Alternatively, states may sign PTAs in order to increase their bargaining power during multilateral trade talks (Mansfield and Reinhardt, 2003). The drawn-out negotiations in the Uruguay Round, and in the current Doha Development Round, may explain the current proliferation of PTAs.

(e) What explains the growth of PTAs?

Changes in the underlying dynamic of trade relationships across the globe may prompt countries to sign PTAs. Baldwin (1995) provided a model of the enlargement of Europe's economic integration which rested on a "domino theory" of regionalism – i.e. where the potential loss of market share induces non-members to join existing PTAs, creating a process of action and reaction or contagion. Exporters in non-member countries push their governments to join existing PTAs or create new ones to counteract the potential damage caused by preferential trade liberalization (Baldwin and Jaimovich, 2010). There is a set of studies which find broad empirical support for Baldwin's domino theory – formation of PTAs creates an incentive for outsiders to become members of an existing PTA or to form new PTAs (Egger and Larch, 2008; Baldwin and Jaimovich, 2010; Chen and Joshi, 2010). According to Egger and Larch (2008), these results are particularly useful to "predict" the process of regional integration in Europe.

The political science literature also focuses on the causal mechanisms behind the domino effect, in particular how decision-makers and interest groups react to discrimination. Pahre (2008) applies the idea of a competitive spread of trade agreements to the nineteenth century. Mattli (1999) makes this argument with respect to the enlargement of the European Union, while Gruber (2000) does so in the context of the North American Free Trade Agreement (NAFTA). In a similar vein, Dür (2010) explains the PTAs signed by the EU and the US in the 1990s and 2000s in terms of competition for market access in emerging economies. This empirical literature does not deny the importance of factors other than potential trade diversion in explaining the growth of PTAs. For example, Manger (2009) argues that investment discrimination as a result of the creation of NAFTA contributed to Japan's decision to conclude a trade agreement with Mexico.

The concluding part of this section emphasizes the importance of "deep" integration – arrangements that go beyond extending preferential tariff concessions to include areas such as investment – in PTA formation. Furthermore, Section D assesses the relative importance of tariff liberalization and "deep" integration in explaining the recent spread of PTAs.

In the literature, the influence of existing PTAs on subsequent PTA formations is often referred to as "endogenous regionalism". Such "endogenous regionalism", however, may also be influenced by trade liberalization at the multilateral level. For instance, Freund (2000) argues that as multilateral tariff levels fall, the formation of PTAs, and hence the domino effect, is strengthened. This may be explained by the effect of tariff reduction on competition, profits, and tariff revenue.

Lowering tariffs enhances competition, which leads to greater output. At high world tariff levels, this efficiency effect is large and multilateral tariff reduction, which has a greater effect on competition than preferential reduction, is better. However, lowering tariffs also means smaller profits and less tariff revenue. At low overall tariff levels, the efficiency effect is smaller, but preferential reduction is less costly – profits and tariff revenue fall by less. Preferential agreements effectively allow members to divert part of the profit loss that results from lower tariffs to the third country where output contracts. Hence, the welfare gain from joining a PTA is greater than the gain from a move to open trade when tariffs are low; the reverse is true when tariffs are high.¹² Empirical evidence confirms the above prediction. For example, Fugazza and Robert-Nicoud (2010) show that reductions in the US multilateral tariff of a given product in the Tokyo and Uruguay Rounds are systematically associated with lower preferential tariffs for that product, and with that product being included in more PTAs formed after the conclusion of the Uruguay Round.

Finally, there is an emerging literature which provides a systematic explanation of the timing of PTA formations and enlargements since the late 1950s using econometric duration analysis. This helps explain the pattern of PTA formation described in Section B. For instance, Bergstrand et al. (2010)¹³ identify three systematic relationships between the "timing" of PTA events and different economic characteristics. Specifically, natural trading partners (countries closer to each other in terms of physical distance), pairs of countries with larger gross domestic products (GDPs), and pairs of countries whose economic size is similar, have a higher probability of forming a PTA – or enlarging an existing PTA – sooner than countries that do not share these three characteristics.¹⁴ Liu (2010) draws similar conclusions.

Bergstrand et al. (2010) also outline conditions under which PTAs create the greatest incentives for non-

members to join existing agreements or to form new ones. First, the closer a potential entrant is to a PTA that another country is already a member of, the more likely that the two countries will form a PTA sooner, consequently enlarging the PTA. Second, the higher the “intensity of regionalism” a country pair faces, the more likely it is that the two countries form or enlarge an existing PTA sooner. Third, there is a “hump-shaped” relationship between the number of members of the nearest PTA and the likelihood of it enlarging sooner. At first, the probability that two countries enlarge an existing PTA sooner increases with the number of members of the nearest PTA – reflecting demand for membership by potential entrants. Beyond a certain threshold level of membership size, however, this probability declines as the utility loss from an expansion for the potentially “worst-off” existing member¹⁵ prevents infinite enlargement.¹⁶ This is important since the speed of regionalism has appeared to be “much slower” than the apparent growth in demand for membership by non-members suggests, given the domino theory of regionalism.¹⁷

Overall, Bergstrand et al. (2010) show that the relationships suggested by the six economic characteristics described above are sufficient to explain 62 per cent of the variation across 10,585 pairs of countries and 57 years of the timing of 1,560 PTA events. Furthermore, the model is able to predict the actual year of the PTA formation or enlargement by a country-pair correctly in nearly 50 per cent of the 1,560 PTA events. Liu (2010) also emphasizes the importance of certain political variables in explaining

the timing of PTA formation. For example, the author shows that countries with similar polity scores,¹⁸ lack of political hostility and a shared colonial history are more likely to form PTAs.

Based on answers provided by WTO members in the Trade Policy Reviews undertaken by the WTO Secretariat, Box C.1 contains a short discussion of the motives mentioned by WTO members for why they sign PTAs.

The above sections have covered in depth the determinants of the formation of preferential trade agreements. However, little mention has been made of those agreements that have been negotiated among countries but have never been implemented. For example, in the early 1990s discussions were begun to establish a Free Trade Area of the Americas (FTAA). This envisioned a hemispheric-wide free trade area in the continent. However, the initiative has largely fallen by the wayside. One way to look at the motives of preferential trade liberalization is that they provide a demand-side explanation of the creation and enlargement of PTA but assumes that there is an unlimited supply of membership. It is important though to also consider what constraints are operating on the supply-side of preferential liberalization. In the case of enlarging an already existing PTA, for example, the supply of new members would be determined at the margin by the potentially worst-off member (Bergstrand et al, 2010). Hence, there might be situations in which the determinants of the demand and the supply of preferential liberalization membership are so dissimilar that an agreement will very unlikely be reached. This issue merits further research.

Box C.1: PTA case studies

The WTO periodically examines the national trade policies of its members through Trade Policy Reviews (TPRs). The member being reviewed submits a Government Report that is published alongside the report prepared by the Secretariat. These official statements present the government's perspective on major developments in the country's trade policy, including the negotiation and conclusion of PTAs. Although there is no defined structure to the Government Reports, they occasionally provide insight into the motives behind preferential agreements.

There are certain limitations to this analytical approach. Given that each member decides what to include in the Government Reports, some explicitly address the motivation behind pursuing PTAs, while others avoid mentioning it altogether. Furthermore, several governments tend to repeat paragraphs from previous TPRs to explain their trade policy without describing motives that are specific to new PTA initiatives. Therefore, this survey of Government Reports is mostly anecdotal and far from exhaustive.

A survey of Government Reports shows that PTAs are predominantly about securing preferential market access and attracting investment, as these are the most commonly quoted motives. However, an array of additional motives is also mentioned, in particular the goal of addressing policy issues that go deeper or beyond WTO rules (see Section D for contents of PTAs). It also appears that PTAs are sometimes used as a means of promoting deeper commitments in new areas, with the aim of eventually incorporating them at the multilateral level.

For example, the United States stated in its Government Report that PTAs “challenge the multilateral system to keep pace with the interests and needs of members, and contribute to the WTO system by introducing innovation and strengthened disciplines”, and that “these agreements can become models for future multilateral liberalization in new areas, such as agriculture, services, investment, and environmental and labour standards” (World Trade Organization (WTO), 2008).

Similarly, the Government Report of Mexico acknowledged that PTAs "establish important precedents in some areas that could be included in future multilateral negotiations", and that Mexico would "continue to negotiate regional trade agreements insofar as they go beyond multilateral liberalization" (World Trade Organization (WTO), 1997).

Political motivations that go beyond trade policy are also expressed in the official statements. Several Government Reports explicitly declare that PTAs aim to promote democracy and political stability. Peace and security is also said to be advanced through trade cooperation in PTAs.

In the TPR on the European Communities (EC), the EC places particular emphasis on the political cooperation dimension of its respective agreements. For example, in its region-to-region negotiations with the Andean Community and Central American countries, the EC "aim[ed] to reinforce the political and economic stability of each region" (World Trade Organization (WTO), 2009b).

Commenting on its PTA with the EC, Chile also asserts that the agreement "covers not only trade issues, but political and cooperation areas as well. In the political area, the agreement seeks to promote, disseminate and defend democratic values" (World Trade Organization (WTO), 2003).

The linkage between political stability and peace is more evident in the EC's agreements with neighbouring partners: "The Euro-Med agreements concluded with eight Mediterranean countries continue to be the basis for intensifying bilateral and regional co-operation in support of an area of peace, stability and shared prosperity" (World Trade Organization (WTO), 2004).

Similarly, the US Government Report argues that the Dominican Republic-Central American Free Trade Agreement (DR-CAFTA) "supports regional stability, democracy and economic development" contributing to the "transformation of a region that was consumed by internal strife and border disputes just a decade ago" (World Trade Organization (WTO), 2006).

In several Government Reports, the slow pace at which multinational negotiations are currently advancing has been used as a justification for seeking PTAs.

The Government Report of Chile admits that "the pace of multilateral discussions is not rapid enough ... a relatively small economy like Chile has very limited capacity to exert any influence in the resolution of these problems. Bilateral initiatives are therefore useful as a supplementary way of achieving substantial outcomes more expeditiously than would be possible at the multilateral level" (World Trade Organization (WTO), 2009a).

The contagion or domino-theory, whereby the conclusion of a PTA acts as a catalyst to trigger other PTAs, also appears to be a central motive. There is evidence that countries are conscious of the effects PTAs have on third countries and the multilateral system. Some countries, such as Mexico, have pursued PTAs with the explicit goal of encouraging other trading partners to negotiate similar agreements. Other countries, such as Pakistan and Japan, have reacted to the proliferation of PTAs by concluding that they have no choice but to create their own network of PTAs (despite being initially opposed to preferential liberalization).

After concluding its first major PTA, Mexico stated in its Government Report that NAFTA "is very important for Mexico, not only owing to the participation of its biggest trading partner ... but also because it generated an incentive and interest among other trading partners for negotiating similar agreements" (World Trade Organization (WTO), 1997). This has been a successful strategy, considering that Mexico went on to conclude PTAs with the EC, the European Free Trade Association and Japan within a decade.

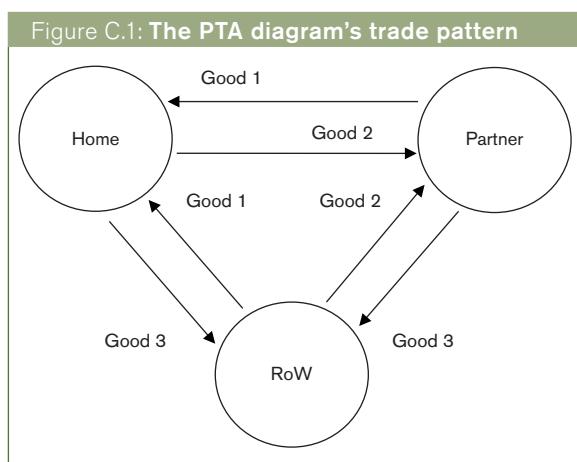
Fearing being left out of the preferential liberalization taking place outside the multilateral negotiations, countries such as Pakistan are "cognizant of the proliferation of regional and bilateral Preferential Trading Arrangements" and have reasoned that "many such arrangements place Pakistani exporters at a disadvantage vis-à-vis their competitors. In order to counter these negative effects, Pakistan has been actively involved in seeking such arrangements on bilateral or regional level" (World Trade Organization (WTO), 2007).

In its 2000 report, Japan remained "seriously concerned that some RTAs have raised trade barriers to trade with non-member countries, and that they have effectively weakened the free, non-discriminatory, and open multilateral system formed under the WTO". It clarified it did not "belong to any preferential regional agreements" but that as a result of the proliferation of PTAs "the possibility and the desirability of free trade agreements [were] being examined by various sectors" (World Trade Organization (WTO), 2000). Two years later, in its next TPR, Japan noted that it had begun to pursue PTAs (World Trade Organization (WTO), 2002).

2. The standard economics of PTAs

(a) An overview of the economic effects of PTAs

The basic economic effects of preferential agreements can be illustrated in a simple model (Baldwin, 2009). Consider a world composed of three identical countries called Home, Partner and Rest of the World (RoW). Each country imports two goods from the other two nations, and exports one good to both destinations. The trade patterns of this model economy are depicted in Figure C.1 below. Further assume that in an initial situation, all countries impose on each other the same (non-discriminatory) tariff, referred to as the Most Favoured Nation (MFN) tariff. In this scenario, the domestic price is higher than the border price faced by the two suppliers and imports are lower compared to open trade. Importantly, however, the two suppliers share equally the reduction in exports due to the imposition of an MFN tariff.



What are the effects of a preferential trade agreement? To help answer this question, consider the case where Home and Partner form a free trade area (or a customs union), so that Partner producers get duty-free access in the Home market, and Home producers get duty free access in the Partner market (a complete graphical analysis is contained in Technical Appendix C.1).

Focusing first on the market for good 1, the good that is imported by the Home economy, the following price and volume effects take place. The domestic price falls relative to the situation where there is a single MFN tariff as the supply of the good in the Home economy is increased, but now there are two distinct border prices. The border price faced by Partner is higher, as exporters no longer face a tariff in the Home market, while the border price faced by exporters in RoW is lower, as they still face a tariff but the domestic price in the Home economy is lower. As a result, exports from Partner expand, while exports from RoW contract.

As the PTA is reciprocal, the effects discussed above on the market for good 1 materialize symmetrically for good 2. The only difference, intuitively, is that in this market the Home economy is an exporter, while Partner is the importer. Therefore, in this market, Home gains from a higher border price and greater exports to Partner, while RoW loses from the drop in border price and the reduction in its exports in sector 2. Finally, the formation of a preferential arrangement has no effect on the market for good 3, where RoW is the importer, as that country is assumed to maintain the same MFN tariff.¹⁹

A PTA has two types of effects on the export side. First, exporters in member countries gain from improved market access as the tariff is removed. Secondly, these exporters also benefit from the fact that tariff discrimination reduces imports from RoW. The latter effect is sometimes referred to as the "preference rent", as it would not exist if tariff liberalization were carried out in a non-discriminatory fashion.²⁰

On the import side, the preferential agreement has ambiguous effects on member countries. Consider the market for good 1, where the Home economy is the importer (the effects on Partner for good 2 are analogous). The formation of the PTA has offsetting volume and price effects.²¹ The increased imports allow the Home economy to benefit from the replacement of high-cost domestic production with more efficient imports. The terms of trade (i.e. the price of exports relative to imports) of Home improve relative to RoW and falls relative to Partner. Overall, whether the members of a PTA gain or lose depends on the level of the initial MFN tariff and on the elasticities of demand and supply (i.e. to what extent the demand and supply of a product is sensitive to changes in its price).

A final consideration relates to the welfare effect of a PTA on non-members. As discussed above, RoW suffers a reduction of its exports to the PTA member countries. In addition, the non-member is hurt by a negative terms-of-trade effect, as the price of its exports declines while the prices of its imports are unaltered. In other words, a preferential agreement can be interpreted as a negative externality that PTA members impose on non-members.

(b) Trade creation and trade diversion

The formal analysis of the economic impact of PTAs began with the work of Jacob Viner in the 1950s (Viner, 1950). He asked whether a PTA would make member countries better off, and concluded that this was not necessarily so. While his approach disregarded some of the effects discussed above, it had an important and enduring effect on the academic and policy debate surrounding preferential agreements.²² A review of the Vinerian theory is, therefore, useful to understand much of the debate on PTAs.

In this theory, preferential liberalization has two main effects – trade creation and trade diversion – and the net balance between the two determines whether a PTA increases welfare for its members. As tariffs on trade between partners fall, some domestic production is replaced by imports from more efficient producers from partners – thus resulting in trade creation and welfare gains. But since the PTA also discriminates against non-members, imports from partners replace imports from more efficient outside producers and the member countries end up paying more for the same good. This second effect which harms members' welfare is known as trade diversion. The interaction between trade creation and trade diversion has dominated much of the subsequent literature on PTAs and regionalism. Box C.2 provides a simple graphical analysis to illustrate trade creation and trade diversion effects.

Building on Viner's insight into the uncertain implications of PTAs' effect on welfare, Kemp and Wan (1976)

found the conditions that would make a customs union – a PTA with a common external policy – necessarily welfare-improving. They concluded that a customs union will be welfare-enhancing if external tariffs are adjusted so as to leave world prices unchanged. In other words, if tariffs are such that external trade is not affected, any additional trade between members must be trade-creating and outsiders are not hurt. In this case, the PTA is Pareto improving.²³ This general principle has been extended to other forms of PTAs: free trade areas (Panagariya and Krishna, 2002) and partial liberalization (Neary, 2011). Furthermore, Kemp and Wan also found that it is possible to guarantee that all members of a PTA are better off if countries can compensate losing members through lump-sum transfers. Even if in reality the external tariffs are not fully adjusted and lump-sum transfers are not always present, the Kemp-Wan logic is important from a policy perspective because it proves that PTAs are not necessarily bad for world welfare.²⁴

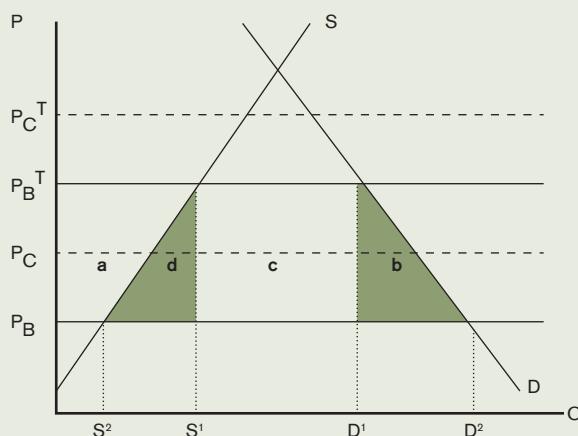
Box C.2: Trade creation and trade diversion effects

Consider a world composed of three countries: Home, Partner 1 and Partner 2, trading a homogeneous good. Assume Home is a small country that takes international prices as given, while Partner 1 and Partner 2 are large economies, meaning that Home could satisfy its entire national demand for the good by importing from either of them. If Home has no PTA in place and applies the same MFN tariff to both Partner 1 and Partner 2, it will get all its imports from the most efficient country.

Figure C.2 below shows the supply and demand curves for Home. The free-trade prices of the good from Partner 1 and Partner 2 are represented by P_B^T and P_C^T , respectively. Note that Partner 1 is the more efficient producer, as it is capable of supplying the product at a lower price than Partner 2. When Home applies the same tariff to both countries, the domestic prices increase equally for both and are denoted by P_B^T and P_C^T . Under these conditions, Home would import solely from Partner 1, at the price of P_B^T , a quantity of the good given by the segment $D^1 - S^1$.

Consider first the case in which Home signs a PTA with Partner 1. In such a situation, imports from Partner 1 are no longer subject to tariffs and the domestic price of the good falls to P_B . At this price, Home will import from Partner 1 the quantity $D^2 - S^2$. To measure the net effect of the PTA on national welfare, one must analyse how consumers, producers and the government are affected.

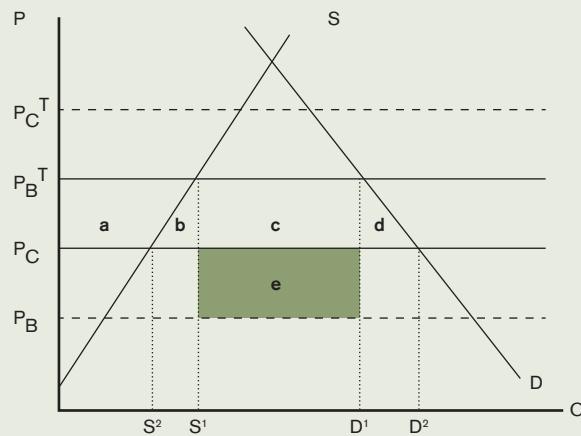
Figure C.2: Home PTA with Partner 1: trade creation



Since, in this case, Home concluded a PTA with the most efficient producer, the agreement results in pure trade creation. The gains of trade creation are measured by the shaded triangles "b", which represents gains in production efficiency, and "d", which represents gains in consumption efficiency. Consumers in Home benefit from the PTA because the domestic price of the good falls and consumption rises. Thereby, consumer surplus increases by areas $a + b + c + d$. Producer surplus is reduced by the area "a". As the price of the product on the domestic market decreases through competition from Partner 1, some domestic producers will be forced to reduce output or close down altogether. Government also loses all of the tariff revenue that had been collected on imports of the product depicted as area "c" in Figure C.2. Thus, the overall net effect of the PTA for national welfare is positive with a gain of $b + d$.

Now, consider the case in which that Home signs a PTA with Partner 2 instead. In this case, the price of imports from Partner 2 falls to P_C^T , which is below the import price from Partner 1. At this lower price, Home imports from Partner 2 rather than Partner 1. Figure C.3 below shows that, by giving preferential access to the least efficient producer, the PTA results in trade diversion.

Figure C.3: Home PTA with Partner 2: trade diversion



Before signing a PTA with Partner 2, Home would apply the same MFN tariff to all foreign producers and it would import from the most efficient country, Partner 1, the quantity $D^1 - S^1$ at the price P_B^T . When Home concludes the PTA, the price of goods imported from Partner 2 falls to P_C while imports from Partner 1 remain at P_B^T . As a result, Home will import only from Partner 2 the quantity $D^2 - S^2$ at the price P_C . Once again, to measure the net effect of this PTA on national welfare, one must analyse how consumers, producers and the government are affected.

After signing a PTA with Partner 2, as in the first case, consumers in Home are better off and consumer surplus gains compound to the area $a + b + c + d$. Note that while there is still some trade creation, the efficiency gains in production and consumption – triangles b and d – are smaller than in the previous scenario. Also, domestic producers suffer a reduction in producer surplus equal to area "a" and government loses tariff revenue equal to "c". The main difference between the two cases is in the shaded area "e" which represents trade diversion. This shaded area is the amount of trade the PTA diverts away from the more efficient producer, Partner 1, by giving preferential access to Partner 2. In other words, Home suffers this efficiency loss and pays a higher price for imports by not adopting open trade towards all countries.

To calculate national welfare, one must balance the efficiency gains against the efficiency loss. In Figure C.3, it is clear that the area "e" is larger than $b + d$; thus the PTA with Partner 2 has a negative net effect on national welfare in Home. However, this is not always the case. It is possible that a PTA is trade-diverting, but not welfare-reducing, if the gains from trade creation are larger than the loss from trade diversion – e.g. if $e < (b + d)$.

(i) The effects of PTAs in services

Up to this point, the analysis has focused on the welfare effects of preferential liberalization in goods trade. However, given the increasing importance of services in PTAs, it is useful to analyse the welfare implications of services liberalization. Does the former analysis also help us to understand the effects of PTAs in services?

The crucial difference between trade in goods liberalization and trade in services liberalization is that PTAs in services do not involve tariff reductions but changes to domestic regulations, and the removal of restrictions on the movement of foreign investment. Although protection in services sectors may assume

several forms, they can be grouped into three categories: (i) variable cost increasing measures (“frictional barriers”); (ii) fixed cost increasing measures; and (iii) quantitative restrictions on the number of foreign service providers. While regulatory measures are often non-discriminatory in nature, there are examples where this is not the case and countries employ measures that *de facto* liberalize preferentially.

The effects of PTAs in services are illustrated in Box C.3. This analysis is based on the work of Matoo and Fink (2002). Focusing on the first category of services protection, the authors study the trade and welfare effects of discriminatory services trade liberalization.

Box C.3: The effects of PTAs in services

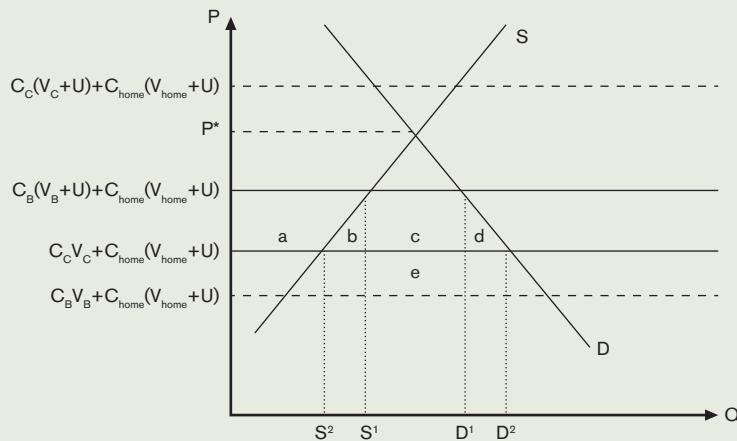
Consider a three-country model similar to the one in Box C.2, but assume now that the Home economy can impose (discriminatory) frictional barriers. This situation can be represented by assuming the quality of the service composed by a universal standard (U) which is equal across countries and a country-specific standard (V_i). If a foreign-service supplier wants to provide a service in the Home country, it has to face the cost of meeting the specific standard in the domestic country (C_i) so the variable cost increases by $C_i V_i$. It may also be the case that the Home country does not accept the universal standard component provided by the foreign supplier. Under these circumstances, if the foreign supplier wants to sell in the domestic country, it has to face an additional cost of $C_i(V_i + U)$, because it needs to adapt to both the universal and the country-specific standard.

Given this framework, the analysis of discriminatory regulation in services trade follows the same logic as trade in goods. Assume that the Home economy is small and that there are two foreign countries (Partner 1 and Partner 2, respectively indicated by subscripts B and C) potentially exporting services. As in the previous section, assume that Partner 1 is the more efficient producer. Suppose that the autarchy price for the service is P^* and that, before recognition, foreign firms have to meet the universal standard in the Home country. Initially the variable cost by foreign firms in the domestic market is $C_i(V_i + U) + C_{\text{home}}(V_{\text{home}} + U)$. When this cost is higher than P^* (for both Partner 1 and 2), no trade occurs. But if Home recognizes the universal component of quality by Partner 2 as equivalent to the domestic one, Partner 2 faces a reduction in its variable cost, now $C_c(V_c) + C_{\text{home}}(V_{\text{home}} + U)$. If this cost is lower than P^* , we observe trade in services from Partner 2 to the Home country (see Figure C.4). In this case, discriminatory recognition (liberalization) is necessarily trade creating.

Assume now that initially, when trade restrictions apply to both foreign countries, $C_B(V_B + U) + C_{\text{home}}(V_{\text{home}} + U) < P^* < C_c(V_c + U) + C_{\text{home}}(V_{\text{home}} + U)$ only Partner 1 sells its services in the Home economy (see Figure C.4). If the Home country recognizes the universal standard U provided by Partner 2 as equal to the domestic one, it may be the case that the only exporting country is Partner 2 and imports are higher than before. This is true when $C_c(V_c) + C_{\text{home}}(V_{\text{home}} + U) < C_B(V_B + U) + C_{\text{home}}(V_{\text{home}} + U) < P^*$.

The welfare effect of the discriminatory liberalization on the Home economy can be seen in Figure C.4: there is a gain in consumer surplus ($a + b + c + d$) partially offset by loss in producer surplus (a). An important point here is to understand the role of the area $c + e$. In the traditional trade in goods case, the area $c + e$ is a welfare loss for Home since it represents the fall in government tariff revenue. However, in this context, the area $c + e$ represents the additional cost that Partner 1 had to face when it supplied the Home economy ($C_B U$ times the pre-recognition value of imports). If this cost did not have any effect on the Home country (for instance, in the form of a regulatory rent), the area $c + e$ does not enter into the calculation of the total Home country's welfare. On the other hand, if a share (s) of the cost sustained by Partner 1 constituted a form of regulatory rent, the net welfare effect of services liberalization in the Home economy is $b + c + d - s(c + e)$.

Figure C.4: Effects of PTAs in services



(c) Natural partners, accumulation and location effects of PTAs

The effects of PTAs studied in the economic literature go well beyond the ones discussed in this section. Below, we briefly summarize three areas of research that provide additional insights into the welfare implications of preferential agreements.

It is possible that the trade effects of a preferential agreement depend on the economic characteristics of PTA members themselves. In particular, if trade agreements are more likely to be signed between countries that trade intensively with each other, PTAs should generally be expected to be trade creating. This idea is often referred to as the "natural trading partners" hypothesis.

Krugman (1991) shows that the costs of preferential trade agreements formed between "natural" trading partners are likely to be lower than for arrangements between countries that do not trade heavily with one another. He models a world where countries are spread over many continents and where variations in inter-continental transport costs determine whether the formation of regional trading blocs are globally welfare-improving. If inter-continental transport costs are high enough to ensure that the bulk of trade takes place regionally in the absence of PTAs, the formation of "natural" trading blocs within a region is welfare-improving as the gains from trade creation are likely to outweigh trade diversion.²⁵ The validity of the "natural trading partners" hypothesis is discussed in the empirical evidence subsection below.

The effects of PTAs are not necessarily limited to traditional trade effects (i.e. the allocation of resources in participating economies). Specifically, preferential agreements may influence welfare of member countries through accumulation (i.e. economies of scale) and location effects (Baldwin and Venables, 1995).

The trade creation, trade diversion debate focuses on the static effects of PTAs. However, it is reasonable to expect that preferential agreements will have dynamic implications (i.e. that change over time). The accumulation effect considers how a PTA affects growth. It does this through changes in the return on investment in member countries determined by changes in physical capital and human capital (management and technical expertise) or by changes in technology available to firms. In a sense, the redistribution of capital flows after the conclusion of a PTA can be seen as investment creation and diversion. If capital is internationally mobile, it is possible that there will be an increase in capital inflows within the PTA at the expense of non-members. In addition, there is a wide body of literature that studies the effects of trade on long-run growth (World Trade Organization WTO, 2008). This area of research generally does not consider the effects of preferential trade agreements as opposed to non-discriminatory trade opening. However, some of the mechanisms through which trade affects growth (international knowledge spillovers, enhanced competition, etc.) apply to PTAs as well as to multilateral trade liberalization.²⁶

The location effect looks at how the integration of a country into a PTA may alter the distribution of economic activity within the PTA and thereby lead to inequality among member countries. When trade barriers are reduced, firms can alter their location decisions. This decision depends on the balance between production costs and the trade costs that must be incurred to supply different markets. On the one hand, locations where economic activity is more concentrated can be efficient in the presence of external economies of scale that increase firms' productivity. On the other hand, proximity to consumers reduces trade costs, particularly when trade policy restrictions are in place. Baldwin and Venables (1995) find that as trade costs decline, having close access to

consumers becomes less important. Thus, during a process of trade liberalization, firms would be drawn to "central" areas within the PTA. This agglomeration effect may exacerbate regional inequalities between members of an agreement.

(d) Effects of PTAs: the evidence

Several studies examine the impact of PTAs and test the traditional theories on trade creation and trade diversion. While this literature is not conclusive, it suggests that trade diversion may play a role in some agreements and in some sectors, but it does not emerge as a key effect of preferential agreements (Freund and Ornelas, 2010).²⁷

A first branch of the empirical literature analyses specific agreements and, using different methodologies, reaches mixed conclusions in terms of the net welfare effects of PTAs. For example, a first set of studies focus on the Canada-United States free trade agreement (CUSFTA). Clausing (2001) finds evidence that the agreement increased US imports from Canada, but did not divert US imports away from other US trading partners. Similarly, the CUSFTA study by Trefler (2004) confirms the finding that trade creation outweighs the trade diversion effect. In contrast, a study of NAFTA concludes that the agreement is overall trade diverting (Romalis, 2007).²⁸ Romalis uses changes in EU trade over the period to capture the counterfactual (i.e. what would have happened in the absence of the agreement), but finds that the welfare costs of NAFTA are small.

Chang and Winters (2002) evaluate the welfare impact of the Southern Common Market (MERCOSUR) from a different perspective, looking at the effect the customs union (between Argentina, Brazil, Paraguay and Uruguay) has had on export prices to Brazil. They find that Argentina's export prices increased while those of excluded countries have declined, suggesting the agreement is trade-diverting and that it has hurt non-members. Finally, Egger (2004) finds that joining a regional trading bloc does not exert any significant short-term impact on trade volumes, but that there is a considerable trade creation effect in the long-run. Hypothetically, removing the European Economic Area (EEA) would account for a 4 per cent reduction of trade within the EEA. A similar estimate for NAFTA yields a reduction in 15 per cent of volume trade.

Another branch of the empirical literature uses gravity models to infer the trade effects of an agreement. The key question is to what extent PTA partners trade more than would be predicted by standard bilateral trade determinants (e.g. income, geographical proximity, etc.). Magee (2008), for example, uses panel data for 133 countries in the 1980-1998 period and includes several fixed effects to capture the counterfactual: what would happen to trade if there were no PTAs. He finds that the average impact of

PTAs on trade flows is small – only 3 per cent – and that, on average, trade creation exceeds trade diversion. In contrast, an earlier gravity-model study covering 130 countries from 1962 to 1996 found that PTAs have generated a significant increase in trade between members, often at the expense of the rest of the world, suggesting evidence of trade diversion (Carrere, 2006).

Finally, focusing on East Asia, Lee and Shin (2006) find that PTAs in the region are likely to create more trade among members without diverting trade from non-members. Baier and Bergstrand (2007) estimate the impact of PTAs on trade flows, taking account of the "endogeneity"²⁹ problem – i.e. the possibility that countries join PTAs for unobservable reasons that may be correlated with the level of trade. They conclude that when taking into account the endogeneity of a PTA, the positive impact of the agreement on bilateral flows becomes statistically more robust and five times larger than in estimates that disregard the endogeneity problem.³⁰ Thus, it appears that countries generally opt for welfare improving PTAs when there are gains from liberalizing bilateral trade.

Acharya et al. (2011) analyse trade creation effects both within the PTA and outside of the PTA for a number of preferential trade agreements. They find strong evidence of intra-PTA trade creation, showing that PTAs increase the value of trade between member countries (for 17 out of the 22 PTAs considered). On the other hand, they do not find evidence of trade diversion effects. Differently from other studies in this area, Acharya et al. (2011) also consider the possible trade creation effect outside of the PTA. Most of the analysed PTAs increase exports from member countries to non-member countries. In particular, they find very strong and positive effects regarding MERCOSUR and the ASEAN Free Trade Area, with an increase of exports outside of the PTA by 109 per cent and 136 per cent respectively. Trade diversion effects outside of the PTA have been found in a number of cases, including the Caribbean Community (CARICOM), the Central European Free Trade Agreement (CEFTA), the Common Market for Eastern and Southern Africa (COMESA) and the Closer Economic Relations FTA between Australia and New Zealand.

A third approach in the empirical literature has been to test the "natural trading partner" hypothesis (Krugman, 1991). Also using a gravity model and concentrating on the Americas, Frankel et al. (1995) seek to identify trade diversion by testing whether regional trade is greater than could be explained by natural determinants of trade, such as proximity and market size. They find that multiple PTAs with partial liberalization among neighbours within a continent would raise welfare, and that this situation is preferable to a single continental free trade area. Thus, in their view, the formation of trading blocs, such as NAFTA and MERCOSUR, among "natural trading partners" is

preferable to the failed FTAA (Free Trade Area of the Americas). An opposing view is held by Bhagwati and Panagariya (1996), who argue that the volume of trade and transport cost criteria, tested by Frankel et al., are not sufficient to ensure that a PTA will raise welfare.

Addressing the points brought up by Bhagwati and Panagariya, Krishna (2003) uses detailed US trade data to estimate the welfare effects of hypothetical bilateral PTAs. He finds that neither geographical proximity nor trade volumes are significantly correlated with welfare gains, concluding that these are not good indicators for the formation of PTAs, as the literature supporting the "natural trading partner" hypothesis suggests. Baier and Bergstrand (2004) study which pair of countries would gain most from forming a PTA and whether these country-pairs are more likely to sign a preferential agreement. They develop a general equilibrium model with a sample of 53 countries, using data from 1996. Testing for several variables that predict 85 per cent of the bilateral PTAs in their sample,³¹ their results support the natural trading partner hypothesis.³²

(e) The political economy of PTAs and external tariffs

Section C.1 makes the point that the views of special interest groups may weigh heavily on governments and that a policy maker may sign a PTA to accommodate the interests of powerful lobby groups. In this political context, can inefficient PTAs be signed (or efficient ones be rejected)? More precisely, under what conditions will a trade-distorting PTA be endorsed by a government? Two influential studies addressing these questions reached a similar conclusion in that trade-diverting PTAs are more likely to be politically viable.³³

The work by Grossman and Helpman (1995) provides the basic structure for the so-called "new political economy" literature in trade. The key idea, which is embodied in all models discussed in this section, is that the interaction of governments in the international arena is a two-level game (Putnam, 1988). In the first stage, the policy preferences of a government are shaped by national welfare considerations and by the politically organized groups that represent different industrial sectors. In the second stage, governments negotiate a PTA under the constraints imposed by the domestic political environment. The outcome of this game is the politically viable preferential agreement.

A PTA naturally requires the assent of both governments involved. The question is, therefore, under what domestic conditions is such commonality of purposes more likely? As lobby groups tend to represent producers' interests, one needs to understand how a preferential agreement affects producers. Consider first a trade-diverting PTA (e.g. the one between Home and Partner 2 described in Figure C.3). In this case, the price in the Home

market falls by a small margin, and exporters in Partner 2 gain from the high domestic price in the partner's market. Hence, domestic import-competing producers are hurt slightly and would weakly oppose an agreement, while exporters in the partner country benefit largely and strongly support the agreement. Consider next the case of a trade-creating PTA (e.g. the one between Home and Partner 1, in Figure C.2). The domestic price falls substantially as a result of the agreement, the domestic import-competing sector suffers larger losses while foreign exporters receive little benefit. In this scenario, domestic political opposition to the PTA is strong, while foreign support is marginal.³⁴

The work by Grossman and Helpman (1995) is based on the assumption that markets are perfectly competitive (i.e. no supplier has sufficient market share to affect prices). A question, therefore, arises whether results would be different under imperfectly competitive markets. In an oligopolistic setting, where a small number of producers dominate the market, Krishna (1998) shows that it is still true that trade-diverting PTAs are politically viable, while trade-creating ones are not. Intuitively, trade diversion increases the oligopolistic incomes (rents) of producers in the partners' economies and, therefore, creates political support for the agreement. Specifically, Krishna (1998) posits that a political requirement for a PTA is that aggregate profits increase in the partners' economies. If trade is diverted away from third countries, it is more likely that firms from within the agreement gain market share in the partner's economy (to the disadvantage of third-market competitors) and increase their profits.³⁵

In brief, these earlier works conclude that the conditions needed for the political viability of a PTA may contradict those that ensure its social desirability. These studies, however, do not consider that external tariffs (i.e. the tariff that PTA members impose on non-members) may respond to the formation of a preferential agreement. For instance, Richardson (1993) first made the point that countries may have reason to lower their external tariffs after entering a PTA. Importantly, removing this assumption may radically change the implications of these models. Intuitively, considering the graph in Figure C.2, if Home lowers the external tariff to Partner 1 after signing a PTA with the less efficient Partner 2, it is entirely possible that the PTA will still be trade-creating.³⁶

Ornelas (2005a: 2005b) revisits the Grossman-Helpman and Krishna theory, which deals with the situation where the external tariff is allowed to change after a PTA has entered into force. Specifically, these papers allow tariffs on third countries to be set "endogenously", that is, in a way that allows special interest groups to influence policy both before and after an agreement is signed. Ornelas shows that independently of the structure of markets (i.e. perfectly

competitive or not), welfare-decreasing preferential agreements are unlikely to be politically viable. However, Ornelas shows it is still possible that special interest pressures may persuade governments not to sign some preferential agreements that would improve social welfare.

The starting point for an accurate characterization of these findings is to consider the political determinants of external tariffs. The political demand for external protection is lower under a preferential agreement. After a PTA is formed, the domestic import-competing sector loses market share to the partners' producers. In this new environment, any increase in the domestic price that may result from an increase in the external tariff benefits domestic producers less than it would if a PTA was not in place. The reason is that the external protection granted by the tariff "leaks" to PTA partners and only partly benefits domestic producers.³⁷ Put differently, the incentive of import-competing sectors to demand protection is stronger in the absence of a PTA, as their share of the domestic market is larger. This is true both for perfectly competitive producers as well as for oligopolistic firms. Moreover, the cost of lobbying is not changed under a PTA, as this still reflects the cost of the external tariff to society at large.

The above reasoning has the following implications. First, a PTA weakens the impact of political economy forces on external tariffs in equilibrium. As the demand for external protection falls under a PTA while its cost is unaltered, the external tariff is predicted to fall. Secondly, if preferential agreements destroy protectionist rents, political support of organized sectors cannot be a strong rationale for a PTA. Politically viable agreements must, therefore, be those that improve aggregate social welfare.

To some extent, these recent works on the new political economy of preferential agreements should be seen as complementary. Grossman and Helpman (1995) and Krishna (1998) focus on the decision to sign or not a PTA, but they do not examine the effect that a PTA has on external tariffs, which is instead the focus of Ornelas (2005a: 2005b). If special interests could both lobby to influence the trade regime decision as well as the tariff formation, Ornelas' findings would be qualified. In this scenario, trade-diverting preferential agreements can be politically viable. However, this negative outcome is not as likely as one might think, as the political rent destruction caused by a PTA reduces governments' incentives to endorse welfare-reducing agreements (Freund and Ornelas, 2010).

The new political economy literature has also raised a related but distinct question. A number of PTAs go well beyond tariff arrangements and include "non-trade" issues, such as labour or environmental standards, provisions on intellectual property rights

and several other areas. As the next subsection discusses more extensively, there are a number of reasons that justify these developments. The question addressed here is not on the economic rationale for such arrangements, but rather whether one should expect external tariffs to fall when preferential agreements encompass more than the lowering of tariffs.

Limão (2007) provides an economic model that allows an analysis of the importance of non-trade issues in PTAs, and their effect on incentives to lower external tariffs. Specifically, he argues that, if preferential agreements include non-trade issues rather than just tariff reductions, governments may be more reluctant to reduce external tariffs. The reason is that a PTA may be valuable to a country precisely because tariff reductions encourage cooperation on other non-trade issues. However, in this case, a government may have little appetite to reduce tariffs on third-country imports, because a reduction in the external tariffs would lower the preference margin to partners and thus weaken the agreement.³⁸

Ultimately, the effect of PTAs on external tariffs is an empirical question. However, the literature appears to be discordant. In a first set of studies, Estevadeordal et al. (2008) and Calvo-Pardo et al. (2009) find that preferential agreements in Latin America and ASEAN countries had the effect of reducing external tariffs. Specifically, they find that external tariffs decline faster in those sectors where preferences have been granted and that, contrary to prevailing opinion, there is little evidence that preferences lead to higher external tariffs. In a second set of studies, Limão (2007) and Karacaoglu (2008) show that the opposite pattern emerges from an analysis of PTAs signed by the United States and the European Union.

While these contrasting empirical findings suggest that more analysis is needed in this area, they may be less controversial at a closer look. Specifically, the difference in the sample of countries analysed may explain part of the differences. PTAs signed between developed and developing countries, such as those signed by the European Union and the United States with developing countries, may be more likely to include provisions that go beyond the lowering of tariffs than agreements between two developing countries. As this is generally the case (see Section B), it is not surprising, in light of the theory, to find that the PTAs between developed and developing countries tend to increase external tariffs, while agreements between two developing countries are likely to reduce them.

(f) Rules of origin and trade diversion

(i) *Rules of origin: a source of trade diversion*

In PTAs which are not customs unions, members maintain their own external tariffs. Consequently, in the absence of any rules, imports of particular products would enter the country in the PTA with the lowest import duty on the item in question and be re-exported to other countries in the PTA. Hence, rules which confirm the true "origin" of the goods are required to prevent such re-routing of goods – or "trade deflection". For example, suppose the preferential tariff on the exports of country A to country B is zero. Hence, when country A exports the good to country B, the latter needs to ensure that the good really does originate in country A, and is not simply being re-routed via country A by some third country which does not have the same degree of preferences in country B. Empirical evidence supports this hypothesis relating to the role of rules of origin (RoOs)³⁹ in preventing trade deflection. For instance, Estevadeordal (2000) finds that the higher the absolute spread between Mexican and US tariffs to third parties, the higher the restrictiveness built into the RoOs of NAFTA. In reality, however, RoOs may be used to protect certain favoured industries, thereby leading to trade diversion or trade suppression (Krishna and Krueger, 1995).

Consider the following scenario. Assume a production sharing network between countries B and C, whereby country B exports a final good to country A using intermediate goods from country C. Furthermore, assume that country A is a high-cost (relative to country C) producer of intermediate goods used in the production of this final good which is exported by country B to country A. Initially, country A signs a PTA with country B and another PTA with country C. Hence, a good produced in B would have preferential access to A, as would a good originating in C. Under the negotiated PTA, country A could impose stringent RoOs on country B with the result that the final product that country B exports to country A may not qualify as originating there – perhaps because the proportion of intermediate goods from C is too high. Hence, the firm in country B can either continue to import the intermediate good from country C and not gain preferential access to country A or shift its purchase of the intermediate good from C to A, in order to satisfy the RoOs and obtain preferential access on their exports to country A.

In other words, restrictive RoOs may make it profitable for firms in country B to engage in "supply switching" by using a more expensive intermediate good either from country A or a domestic firm, i.e. restrictive RoOs in final goods divert or suppress trade in intermediate goods. Supply-switching strengthens the trade link between countries A and B (hub-spoke), at the expense of trade between countries B and C (spoke-

spoke), i.e. country A benefits by using RoOs to protect exports of certain industries (Gasiorek et al., 2009). Furthermore, by influencing the sourcing of intermediate goods trade, RoOs are likely to increase firms' costs and hence have an adverse effect on final goods trade. This increase in cost strengthens the "spaghetti bowl" effect of PTAs analysed in Section B. Hence, supply-switching – or the non-utilization of preferences, as a result of RoOs – reduces the trade liberalizing impact of PTAs. Analysing import data for a sample of more than 150 countries during the period from 1981 to 2001, Estevadeordal and Suominen (2008) find that restrictive product-specific RoOs encourage the trading of intermediate goods within the PTA (thereby leading to trade diversion) and undermine aggregate trade flows among PTA partners.

In a survey of 345 firms in four Latin American countries carried out by the Inter-American Development Bank (IADB) in 2007-08, fewer than 10 per cent reported having changed their supply chain in order to adapt to rules of origin (Harris and Suominen, 2009). This suggests that most firms continue to import from the same source as before, even if this means foregoing preferential access to their PTA partner country market. Among the multi-national corporations (MNCs) in the sample, however, about 75 per cent (ranging from 50 per cent in Panama to nearly 90 per cent in Colombia) described RoOs as an important factor in determining where to invest in production facilities. However, when asked whether investment in a subsidiary was made explicitly to meet RoO requirements in one or more of the country's PTAs, the figure falls to less than 30 per cent⁴⁰ (Harris and Suominen, 2009). This firm-level evidence suggests that for MNCs, which rely heavily on flows of intermediate goods trade via production networks, RoOs significantly affect investment decisions. In particular, firms may switch their source of intermediate goods from a more efficient supplier in a non-member country to a less efficient supplier in a member country (where they establish production facilities), thereby resulting in trade diversion.

(ii) *Reducing such trade diversion: the way forward*

The hypothetical scenario described above showed that the final good originating in B has preferential access to A, as does the intermediate good originating in C. However, the final good from B, produced using intermediate goods from C, which does not meet rules granting originating status for B's exporters to C, would not be eligible for preferential access. Such a system of bilateral hub-spoke agreements with constraining rules of origin is thus likely to enhance hub-spoke trade at the expense of spoke-spoke trade.

Gasiorek et al. (2009) have argued that this discrimination, which protects the exports of certain industries in country A and hence leads to trade diversion, can be resolved if country B signs a PTA

with country C and is thereafter allowed to add its own intermediate inputs (value added) with the intermediate inputs from country C in determining originating status on the exports of the final product sold to country A. This is the principle of “diagonal cumulation” of rules of origin. Under this arrangement, all participating countries agree bilaterally that in all PTAs concluded among themselves materials originating in one country can be considered to be materials originating in all the other countries. This makes it easier to import intermediate goods and still satisfy the RoOs.

Diagonal cumulation applies to trade between three or more trading partners normally linked by PTAs with identical RoOs. It builds on the concept of “bilateral cumulation” – materials originating in one country can be considered as materials originating in the other partner country – which is a feature of all PTAs. In addition, there is the concept of “total cumulation”, which again applies to trade between three or more countries, but involves greater flexibility than “diagonal cumulation”. This is because it allows intermediate processing to be split in any way among all the parties to the PTA, provided that when added together, the cumulative processing is sufficient to meet the origin rule. In the context of our hypothetical scenario, suppose for instance that the intermediate good from country C does not qualify as originating in that country. With total cumulation, the producer in country B can cumulate the

proportion of country C's value added together with its own value added in determining originating status.

Although total cumulation is rare, diagonal cumulation has been used by some PTAs. The EU is a good example in this regard. Box C.4 provides an overview of the EU experience in relaxing RoOs in PTAs.

3. Going beyond the standard analysis

As shown in Section B and Section D, over the past three decades trade agreements have gone beyond border measures, such as tariffs, and have integrated a number of domestic policies and regulations, including intellectual property rights, product standards, competition and investment policies. These developments are not inconsequential; once tariffs are removed, differing regulatory policies among nations become more salient, creating complex challenges of accommodation and coordination. Moreover, trade openness – along with the new forms of trade that technological development makes possible – creates new pressures to reconcile divergent national practices, and generates new forms of cross-border policy effects (spillovers). These developments produce demands for governance and the rule of law that transcend national borders.

Box C.4: Lessons from the EU experience in relaxing rules of origin (RoOs)

For the EU, the issue of multiple RoOs became increasingly significant in the 1990s, as agreements were concluded with a number of countries from Central and Eastern Europe and from the South Mediterranean. It became apparent that the EU's “spaghetti bowl” of criss-crossing agreements was restricting firms' ability to source intermediate goods from the cheapest source, i.e. there was trade diversion (Gasiorek et al., 2009).

To address this problem, the Pan-European (PANEURO) Cumulation System (PECS) was launched in 1997. It established identical protocols for product-specific and regime-wide RoOs across the EU's existing and future PTAs. This included arrangements with the European Free Trade Association (EFTA) countries, dating from 1972 and 1973, as well as those forged in the 1990s and later – i.e. PTAs with several Eastern European countries, the Euro-Mediterranean Agreements, the Stabilization and Association Agreements with Croatia and FYR Macedonia, as well as extra-regional PTAs with South Africa, Mexico and Chile (Estevadeordal and Suominen, 2004). Hence, “diagonal cumulation” was a key principle introduced in pan-European rules. It enabled producers to use components originating in any of the participating countries without losing the preferential status of final product.

Empirical evidence reveals that the harmonization of RoOs, via diagonal cumulation in the PECS, has impacted trade flows since 1997. For instance, analysing the textile industry, Augier et al. (2004) find that trade between non-cumulating countries could be lower by up to 50 to 70 per cent. Similarly, using data on trade flows between 38 countries for three baskets – trade in all goods, trade in intermediate goods, and trade in manufactured goods – Augier et al. (2005) show that trade between countries that became part of the pan-European system of diagonal cumulation was higher relative to trade with other countries by about 43 per cent between 1995 and 1999. In addition, they show that the introduction of the PECS in 1997 increased trade between the spokes by 7 and 22 per cent. However, their methodology is based on using dummy variables in a gravity model to capture the role of cumulation. Hence, it is possible that these variables are capturing other factors.

At the same time, analysing data on trade flows between 38 countries, Gasiorek et al. (2009) find that the trade between newly cumulating countries (following the introduction of the PECS in 1997) rises by more than trade between these countries and third countries for some selected industries.⁴¹

The following subsection looks at the new forms of trade agreements that are emerging, using the concept of “deep” integration (Lawrence, 1996), and asks two main questions. First, what are the motives behind these agreements? Secondly, what determines the structure of deeper arrangements? Answers to these questions are essential to understanding the economic costs and benefits of deeper integration.

(a) The concept of deep integration

Trade agreements that deal mostly with border measures are often defined as “shallow” agreements. On the domestic side, these agreements accord non-discriminatory national treatment to foreign goods and firms (i.e. the same treatment that is accorded to domestic firms), but stop short of intervening in domestic economic policies beyond this requirement. In contrast, trade agreements that include rules on domestic policies that fall “inside the border” are referred to as “deep” agreements (Lawrence, 1996). There is no agreed definition of the scope of such deep agreements, and indeed the concept is widely used to refer to any arrangement that goes beyond simply extending preferential tariff concessions. However, there are at least two distinct dimensions – the “extensive” and “intensive” margins – to any deeper integration agreement.

The first dimension refers to increasing the coverage of an agreement beyond the lowering of tariffs (e.g. the harmonization of national regulations in financial services). Most discussions of deep integration focus on this dimension. The second dimension, the intensive margin of deep integration, refers to the institutional depth of the agreement, such as the extent to which

certain policy prerogatives are delegated to a supranational level of government (e.g. the formation of a customs or monetary union). These two dimensions are often related. That is to say, extending the coverage of an agreement may also require creating common institutions and new, more sophisticated ways of sharing sovereignty in order to administer it. The table below provides a schematic (but not exhaustive) picture of the diverse forms of integration.⁴²

Like shallow integration arrangements, deeper agreements can be among advanced economies (North-North), advanced and developing economies (North-South), or just developing economies (South-South). Similarly, membership in deep integration arrangements can be wide or narrow, ranging from regional agreements involving several neighbouring countries to bilateral agreements between two distant partners.⁴³

(b) Why is deep integration gaining momentum?

Deep economic integration and trade are intimately related (see Table C.1). Deep arrangements may be necessary to promote trade in certain sectors or across economies more broadly. For instance, harmonization of certain regulations may be a prerequisite for trade in services or common competition policy rules may be required to allow comparative advantage to materialize (see Section D.2(b)). Conversely, trade liberalization – and the evolving structure of trade (for example, the growth of production networks) – can make the need for deeper policy integration more pressing. In short, shallow and deep integration can be complementary processes, as the first generates a demand for

Table C.1: Shallow versus deep integration

| Integration level | Type of PTA | Features | Example |
|---------------------|----------------------------|--|---------------|
| SHALLOW INTEGRATION | Free trade agreement (FTA) | Members liberalize internal trade but retain their independent external tariffs | US-Israel FTA |
| | FTA+ | An FTA that in addition harmonizes some beyond the border standards (e.g. environmental standards) | NAFTA |
| | Customs Union (CU) | Members liberalize trade within the union and adopt common external tariffs against the rest of the world | SACU |
| | Common Market | Establishment of the free movement of all factors of production within the PTA, including labour and capital | EU |
| | Monetary Union | Establishment of a common currency and completely integrated monetary and exchange rate policy | Euro Area |
| | Fiscal Union | Establishment of a common fiscal policy | US |

Note: The depth of integration of PTAs might overlap across types of agreements in certain circumstances.

governance that the latter can provide. This relationship is underscored in the economic literature.

A number of authors argue that markets need non-market institutions (political, legal and social) if they are to function properly (Casella, 1996; Casella and Feinstein, 2002; Padoa-Schioppa, 2001; Rodrik, 2000). These non-market institutions are essentially public goods that the market itself fails to provide. Others make the point that trade openness increases policy externalities, rendering unilateral decision-making inefficient compared with cooperative decision-making (Broner and Ventura, 2006; Epifani and Ganica, 2006; Brou and Ruta, 2010; Antràs and Staiger, 2008).

In sum, the relationship between deep integration and trade works both ways – in the sense that one may be the cause and/or consequence of the other. The relationship is also dynamic – in the sense that it is likely to develop over time. The remainder of this section focuses on international production networks which exemplify the complementarity between trade and governance that lies at the root of the current proliferation of deep agreements.

(i) International production networks and deep integration

Twenty-first century trade, as defined by Baldwin (2010), is a much more complex phenomenon than trade prior to the early 1980s.⁴⁴ This complexity is the result of the increased role of international production networks in the global economy, which are characterized by the unbundling of stages of production across borders. Increasingly, multinational firms are not only distributing manufacturing stages to decrease costs and exploit comparative advantages; they are also unbundling and outsourcing services work, primarily office tasks, making global production networks even more sophisticated and complex.

These new forms of international trade require reconsideration and reconceptualization of preferential trade. Most of the PTA models above assume that countries trade final goods and that producers are protection seekers for these goods. However, there might be some economic sectors, increasingly dependent on imported intermediate inputs, that seek lower levels of protection to reduce their production costs (Yi, 2003). Some empirical evidence suggests that when countries have a significant number of firms involved in production networks there is more pressure for unilateral trade liberalization.⁴⁵

For similar reasons, countries that form part of supply chains involving multiple nations might be more inclined to sign PTAs with their trading partners than to unilaterally liberalize. As various stages of production may take place in a number of different countries, the effects of trade barriers, such as tariffs or other non-tariff barriers, on the cost of a particular

stage of production is proportional to the number of times the product crosses other national boundaries. In addition, countries may sign PTAs in order to secure or “lock in” trading relationships, thus reinforcing their position as the main provider of intermediate inputs.

Theoretical conclusions regarding the welfare effects of preferential trade liberalization also change with the presence of production networks. In fact, international production sharing can mitigate the trade-diversion effects of PTAs.⁴⁶ The possibility of dividing up the production of final goods into various stages or components alters the calculation of trade creation and trade diversion and, although the outcome is still uncertain, it leaves room for welfare-reducing PTAs, that trade only in final goods, to become welfare-improving PTAs, once members engage in trade of parts and components.⁴⁷

International production networks are not a new phenomenon, but their relevance is increasing in particular regions of the world (see Box C.5), and their pattern and composition has changed over time. Initially, countries engaging in production sharing were mainly rich countries.⁴⁸ From the mid-1980s, however, production networks between developed and developing countries started to increase (see Section B.3).

Is there any link between the recent growth of production networks and the demand for deeper agreements? The theoretical and empirical literature on FDI and offshoring highlights that despite the benefits of exploiting factor price differences and new technological developments, there are additional costs of international fragmentation of production – from the managerial and logistic costs associated with monitoring and coordinating international production to learning about the laws and regulations that are required to do business in another country. These costs might be particularly high for developing nations which are part of North-South production networks, and that may lack the kind of sophisticated business laws and the product and labour regulations which rich countries use to consolidate their trade in intermediate goods (Baldwin, 2010).

In this context, the expansion of production networks – and in particular of North-South production-sharing – should be related to the proliferation of deep agreements aimed at filling a governance gap between countries. Agreements that include provisions related to the institutional framework, competition policy, the product and labour-market regulations, infrastructure development, and other areas could make production-sharing activities more secure and less vulnerable to disruptions or restrictions (Yeats, 2001).

This pattern can be observed in agreements such as NAFTA which not only increase market access, through tariff reductions, but also include disciplines that reduce

Box C.5: Determinants of the regionalization of production networks

Standard elements of comparative advantage, such as variations in labour supply conditions, wages, or relative factor endowments, help explain not only the proliferation of North-South production networks but also the regionalization of such networks. Studies by Athukorala and Menon (2010) of East Asia, for example, show that even though wages in China; Hong Kong, China; the Republic of Korea; and Chinese Taipei have been rapidly approaching developed-country levels in recent years, wages in countries such as Malaysia, the Philippines, Thailand and Viet Nam remain lower than – or comparable to – wages in Mexico and countries on Europe's periphery.

The role of distance is also important in explaining the regionalization of production networks. Several economists have pointed out that despite technological advancements, distance still matters and certain countries still suffer from geographic remoteness (Venables, 2001).⁴⁹ In addition, there is evidence that geographical distance remains a key factor in determining international transport costs, especially shipping costs, and delivery time (Evans and Harrigan, 2005). Arguably, these types of costs are particularly relevant for production networks, where a good can cross borders several times in the various stages of production.

New geography models of economic agglomeration at the international level are also useful in explaining the regionalization of production sharing. Access to intermediate goods creates agglomeration of production, as firms gain from being close to customer and supplier firms.⁵⁰ As more and more firms move to a certain region, they create a demand for suppliers of intermediate goods and services, reinforcing the offshoring attractiveness of that region for other firms in the industry and related fields. In addition, because production networks are formed around centres of economic activity, the distance between these production centres and the periphery matters.⁵¹

Schatz and Venables (2000) show that major outward investors carry out much of their investment, which relies heavily on intermediate goods trade, close to home (the United States investing in Mexico; the EU in Central and Eastern Europe; Japan in Asia) and this trend captures an important share of FDI flows from developed to developing countries.⁵²

In the case of East Asia, Athukorala and Menon (2010) find that the region has benefited from a “first-mover” advantage in hosting assembly operations of multinational corporations. Established companies have attracted other key market players and, in turn, many have upgraded the technology employed by regional production networks and assigned greater global production responsibilities to local affiliates, reinforcing the agglomeration effects.

the risks – and increase the profitability – of investment in Mexico. Also the recent accession of eastern European economies to the European Union, as well as some of the euro-Mediterranean agreements, could be partly explained as a response to the demand for deep integration agreements associated with expanding international production-sharing.

The evolving nature of trade agreements in East Asia, where a significant and growing share of international production sharing takes place, also highlights the link between production networks and deep integration (see Section D.3 for a more detailed analysis). In this region, the growth of production sharing first took place through *de facto* economic integration.⁵³ However, more recent North-South agreements, such as Japan's economic partnerships with Malaysia, Indonesia, Thailand and Viet Nam, or ASEAN's push for deeper disciplines, clearly show that this region is moving towards deeper integration.

Lawrence (1996) was the first to highlight the systemic implications of international production networks and deep integration. With increased international competition flowing from reduced barriers to trade, the ability to operate abroad – and to locate complex

production in the most cost-efficient regions – becomes increasingly important to firms' competitiveness. In order for cross-border production networks to operate smoothly, certain national policies need to be harmonized across jurisdictions. This generates a demand for deep forms of integration.

The trade literature has largely failed to model the interaction between international production networks and deep integration. One significant exception is the recent work by Antràs and Staiger (2008). They show that the rise of offshoring creates new forms of cross-border policy effects that go beyond the standard trade policy externalities, when goods are produced in a single location (i.e. the terms-of-trade effect).⁵⁴ In this context, the objective of trade agreements is more complex than the standard theory would suggest, as negotiating market access is not sufficient to address distortions of unilateral policy-making. An implication of this model is that the changing nature of trade (from trade in final goods to trade in intermediate goods) is directly responsible for the growing demand for deep agreements that can address these new cross-border effects. Specifically, externalities associated with production offshoring are different from those associated with traditional market access, and cannot be easily

addressed with general rules, such as non-discrimination and reciprocity (Bagwell and Staiger, 2003). If this argument is correct and the GATT/WTO system is not well adapted to handle these non-market access issues, countries might turn to other available instruments, such as PTAs, to solve their coordination problems.

This presents the multilateral trading system with a difficult challenge. The recent wave of preferential agreements may (at least in part) be an institutional response to the new problems associated with the growth in offshoring. On the one hand, this suggests that PTAs are efficiency-enhancing rather than beggar-thy-neighbour agreements.⁵⁵ On the other hand, PTAs may make it more difficult for the WTO to perform its traditional role of providing reciprocal market access opening. In essence, the institutional challenge for the WTO is to find an approach that can facilitate the deeper integration that countries are seeking while at the same time upholding the core principle of non-discrimination.

(c) The trade-offs involved in deep integration

Unlike shallow integration, deep integration – regardless of the form it takes – requires common policies and regulations among member countries across a number of areas.⁵⁶ This raises a completely different set of questions. What are the costs and benefits of common policies? Which countries should form a deep agreement? Which policies should remain in the national domain, and which should be harmonized at – or assigned to – a supranational level of government? These questions are traditionally addressed in public economics, and have generated an extensive literature, mainly focused on fiscal federalism, which is briefly reviewed below.⁵⁷

Economists have developed a simple principle to understand the costs and benefits of common policies, known as the Oates' Decentralization Theorem (Oates, 1972). This theorem suggests that there is a basic trade-off between the benefits of common policies, which depend on the extent of cross-border policy spillovers, and their cost, which depends on the extent of policy preference differences across member countries. For individual countries, the cost of common decision-making is that it moves the common policy away from its preferred national policy (i.e. a loss in national sovereignty); the benefit is that policy spillovers are internalized.

This basic principle sheds an important light on the remaining two questions – i.e. which countries and which policies should undergo deep integration. Regarding the first question, countries that have similar policy preferences would benefit the most from deep integration, as this would limit the political cost of integration. Similarly, for a certain spectrum of national policy preferences, countries that are more

interconnected would also benefit more from deep integration. Regarding the second question, countries should take common policy decisions in areas characterized by large cross-border effects and maintain national policy prerogatives in areas with low cross-border impacts (and where policy preferences are dissimilar).

An interesting empirical issue is whether the fiscal federalism theory can explain observed patterns in deep integration arrangements. First, the theory predicts that countries sharing similar policy preferences and greater levels of interconnection are the ones that should choose deeper over shallow integration. While a direct test of this proposition is hard to verify, several deep PTAs are formed by geographically close members (the EU being a primary example). To the extent that policy preferences are correlated with geographic location, this provides indirect evidence in support of the theory.

Secondly, the fiscal federalism theory states that policies characterized by high cross-border spillovers and low heterogeneity of preferences for different countries should be centralized, while the provision of all other services should be decentralized. Alesina et al. (2005) contrast this benchmark with a set of indicators that measure the role of the EU in different policy areas. They find that there is a partial inconsistency between the resulting allocation of competencies to the EU and the Oates Theorem. In particular, their data suggest that the EU is active in certain areas where cross-border effects are low and that its intervention is too limited in some policy domains characterized by large spill-overs and similar preferences across countries.⁵⁸

Three further issues are relevant to the debate on deep integration: the welfare effects of deep agreements on member countries; the trade-offs of bilateral North-South deep agreements; and the systemic effects of deep regional arrangements.

As discussed in the preceding section, there is not a single definition of deep integration agreements, as this concept generally refers to any agreement that goes beyond shallow arrangements. As a result, there is not the same comprehensive analysis of the economic costs and benefits of deep integration as there is for preferential tariff liberalization. This is not surprising for two reasons: first, the effects of FTA-plus or customs union-plus agreements are likely to be different from the effects of standard FTAs or customs unions. Like shallow agreements, deep agreements reduce the costs of trade, and thus can be expected to increase trade among members (Section D provides an empirical analysis of the trade effects of deep integration). However, unlike shallow agreements, deep integration agreements may also provide supranational public goods (common rules, a stable monetary system, etc.) that the markets or national

governments cannot offer. The welfare effects of these public goods can go well beyond the trade effects, and are more complicated to measure.

From the perspective of developing countries, deep integration with advanced economies may create certain advantages and disadvantages (Birdsall and Lawrence, 1999). As regards advantages, for instance, developing countries can import international regulatory systems that are “pre-tested” and represent “best practices”, without having to pay the costs of developing them from scratch. As regards disadvantages, developing countries may be pressurized to adopt common rules which are inappropriate for their level of development, such as certain environmental and labour standards. This risk is higher the weaker the bargaining power of developing countries vis-à-vis their advanced trading partners (or when policies and regulations are imposed rather than developed cooperatively). Such standards could also be used by advanced economies to protect vested interests and to close markets to poor countries.

In a model of regional integration where special interest groups can manipulate the decision-making process, Brou and Ruta (2006) show that more advanced economies tend to be more politically organized and exert a stronger influence on common policies. While deep integration can still be a boon for developing economies, the theory supports concerns that the common policy will shift away from the interests of the less developed member.

What are the systemic effects of deep integration? There is a long-standing debate in the trade literature on whether preferential agreements are friends or foes of the multilateral trading system. Although this debate is extensively reviewed in Section E, some preliminary observations are worth noting. First, deep integration may, in some cases, have trade-diverting effects. Facchini and Testa (2009), in their work on common markets, show that mobile factors of production are more likely to experience an increase in returns, while immobile ones are more likely to be made worse-off compared with the status quo (i.e. no common market). If no form of wealth transfer across countries is possible, a common market is politically viable – i.e. it would be supported by the median voter in each member country – only if some factors remained protected vis-à-vis the rest of the world once the integration process is completed.

In an empirical study, Chen and Mattoo (2008) find that regional harmonization of standards significantly increases intra-regional trade in affected industries, but that the exports of excluded countries decline. This suggests that firms in the excluded countries are hurt more by an increase in the stringency of standards than by the scale benefit provided by integrated markets. In other words, standards harmonization in PTAs can be *de facto* restrictive.

A second important observation is that the process of deep regional integration may be a complement to rather than a substitute for the process of global integration. Deep agreements address behind-the-border measures that are more difficult to negotiate at the global level, because of the widely different policy preferences and needs among countries. Regional groupings may offer supranational public goods that governments – as well as multilateral arrangements – so far fail to supply (e.g. redistribution, infrastructures), giving them an appropriate intermediate level role in integration between the national and global levels (Padoa-Schioppa, 2001).

4. Conclusions

This section has reviewed the main reasons for establishing PTAs and what the consequences are for both members and non-members. Much analytical work in the past has focused on shallow trade arrangements, such as free trade areas, and the trade-creation/trade-diversion effects of PTAs. As preferential agreements have evolved over time, however, the lowering of tariffs is no longer the main focus of PTAs. Agreements now cover a wider number of issues – beyond tariffs – and involve more structured institutional arrangements. Traditional theories about PTAs fail to explain these new developments, both in terms of the causes and consequences of “deep” agreements. In particular, traditional theories are silent on the relationship between the growth of international production networks and the formation of deeper policy arrangements among countries. While the above discussion has shed some light on the causes and the structure of deep integration agreements – a discussion that falls mostly outside the domain of trade economics – there is clearly a need for further research in this area.

Endnotes

- 1 The empirical relevance of terms-of-trade effects in trade policy has been the subject of a recent debate in the empirical literature. Broda et al. (2008) and Bagwell and Staiger (2011) find evidence consistent with the view that governments set policy to exploit terms-of-trade gains.
- 2 In game theory, the Prisoners' Dilemma represents a situation where beneficial cooperation does not emerge. In the game it is assumed that players (the prisoners) can either cooperate or not and that cooperation involves higher joint welfare than non-cooperation. However, whenever others choose to cooperate, each player acting individually will be better off by deviating and choosing non-cooperation. Given that all players are trying to maximize their individual welfare, the only rational equilibrium implies the inferior situation of non-cooperation.
- 3 As it is well understood in the theoretical literature and in the practice of trade policy, cooperation among countries cannot be achieved in the absence of a trade agreement. The reason is that, if a country unilaterally reduces its tariff, the trading partners would still have an incentive to maintain its level of protection. A "trade war", on the other hand, is a stable (Nash) equilibrium, as once high protections are in place, no country has an incentive to reduce its tariff unilaterally.
- 4 As discussed in Bagwell and Staiger (1998), PTAs may even pose a threat to the functioning of the multilateral trading system. See Section E for a discussion of the relationship between preferential and multilateral agreements.
- 5 Section C.3 will, however, analyse cases where preferential agreements may address coordination problems beyond terms-of-trade or production relocation externalities.
- 6 Time inconsistency arises, for example, when a policy decision is separated through time from its implementation, with the result that for some reason (e.g. organized political opposition) the initial policy intention is no longer feasible.
- 7 Put simply, a time-inconsistency problem refers to a situation whereby a decision-maker's preferences change over time so that what is preferred at one point might be inconsistent with what is preferred at another point in time.
- 8 Whether an agreement can increase trade policy credibility and whether countries are likely to sign agreements to commit their trade policy are ultimately empirical questions. Staiger and Tabellini (1999) and Tang and Wei (2008) provide evidence that the GATT/WTO increased credibility of policy commitments. Arcand et al. (2010) find that the probability that two countries sign a PTA is larger when such agreement leads to credibility gains.
- 9 The key reference in the lobbying literature in trade is Grossman and Helpman (1994). Several studies have documented the role of lobbying groups in influencing trade policy outcomes. For a review of this empirical literature, see Gawande and Krishna (2003).
- 10 This political economy literature is more extensively discussed in Section C.2.
- 11 Levy and Srinivasan (1996) provide an example of this logic. A particular feature some PTAs have that the WTO system is lacking is private agents' access to dispute settlement mechanisms. In the multilateral system, private disputants have to rely on their governments to act on their behalf even though the ultimate incidence of the costs and benefits of the settlement fall largely on them. Meanwhile, a PTA like the European Union allows private parties indirect access to dispute settlement through the European Court of Justice. Levy and Srinivasan (1996) argue that this difference in the design of dispute settlement mechanisms might be a motive for preferring PTAs.
- 12 Naturally, this argument would only hold true when MFN rates are positive and non-negligible. With zero MFN rates, there would be no scope for using PTA preferences (as explained in Section B).
- 13 An empirical study motivated by a formal general equilibrium model of the demand for and supply of PTA membership.
- 14 These relationships become statistically insignificant when such fixed effects are controlled for. Dyadic variables such as bilateral distance are time-invariant and hence not de-meaned following the differencing transformation.
- 15 Most agreements require all existing members to admit a new entrant.
- 16 This empirical finding is facilitated by the fact that unlike other models, Bergstrand et al. (2010) do not assume an infinitely elastic supply of PTA membership.
- 17 These three relationships are robust to the inclusion of country pair fixed effects introduced via a time de-meaned differencing transformation.
- 18 This refers to a widely-used measure of the "political regime characteristics" of states. The polity score measures the governing authority of states ranging from fully institutionalized autocracies to fully institutionalized democracies. States are ranked on a 21-point scale ranging from -10 (hereditary monarchy) to +10 (consolidated democracy). See <http://www.systemicpeace.org/polity/polity4.htm>.
- 19 Depending on the assumptions on preferences, it would be possible to have effects also on the market for good 3 even in case RoW maintains the same non-discriminatory tariff. However, in this discussion we abstract from these additional effects.
- 20 In a model with more than three countries, the extent of this rent can be shown to depend on the number of countries that have preferential access to the market of the trading partner. Specifically, as this number increases, the preference rent decreases, a situation referred to in the literature as "preference erosion".
- 21 The next subsection provides a simple graphical analysis in the special case where the importing economy is small and does not alter the world price.
- 22 See Baldwin (2009) for a critical survey of Vinerian regionalism and for a discussion of the limits of the traditional graphical approach presented in Box C.2.
- 23 In neoclassical economics, a Pareto improvement is characterized by an action that makes at least one individual better off without making any other individual worse off. Pareto optimality describes a situation where no further improvements to welfare can be made. The Pareto optimum is indifferent to the distributional consequences of the outcome.
- 24 Dixit and Norman (1980) have shown that intra-PTA commodity taxes and subsidies are sufficient to obtain the same result without lump-sum transfers.

- 25 Schiff (1999) states that the volume of trade does not necessarily provide an objective measure of the extent to which trading partners are "natural" because the volume of trade is itself affected by policy. Instead, Schiff proposes to define countries as "natural trading partners" if they tend to import what the prospective partner exports.
- 26 For instance, Bustos (2011) studies the impact of MERCOSUR on technology upgrading by Argentinean firms. She shows that the increase in revenues produced by trade integration can induce exporters to upgrade technology. An empirical test of the model reveals that firms in industries facing higher reductions in Brazil's tariffs increase investment in technology faster. Similarly, there is evidence that NAFTA had positive effects on productivity and technology adoption for new exporting firms. In particular, Lileeva and Trefler (2010) find that lower-productivity Canadian plants that were induced by the tariff cuts to start exporting, increased their labour productivity, engaged in more product innovation, and had high adoption rates of advanced manufacturing technologies.
- 27 A summary of the main findings is provided in Appendix Table C.1.
- 28 Other studies analysing the welfare effects of NAFTA through a general equilibrium approach are Brown (1994); Brown et al. (1992); Brown et al. (1995); Cox (1994); Cox (1995); Cox and Harris (1992); Sobarzo (1992); Sobarzo (1994); Sobarzo (1995).
- 29 In an econometric model, a variable is said to be endogenous when there is a correlation between the variable and the error term, which is the unexplained deviation of sample data from their unobservable "true" value.
- 30 In a recent paper, Baier and Bergstrand (2009) provide evidence of the trade effect of PTAs by using non-parametric estimates. When the selection into a PTA is not random, as shown by Baier and Bergstrand (2004), and some non-linearities exist between co-variates in gravity equation and PTA dummies (see Frankel, 1997, and Brada and Mendez, 1985), parametric estimators can be biased. In this case, non-parametric estimators are needed. Using this econometric technique, the authors provide more economically plausible effects of PTAs on trade compared to previous estimates.
- 31 The likelihood of a PTA is shown to depend on: (i) geography (the closer the two countries are to each other and the further they are to the rest of the world); (ii) income (the larger their GDPs and the smaller the difference between their GDPs); and (iii) endowments (the larger their relative factor endowment difference and the wider absolute difference between them and the rest of the world's capital-labour ratios).
- 32 Bergstrand et al. (2010) find similar results considering the timing of all PTAs by using a duration analysis.
- 33 Other studies include Richardson (1994) and Panagariya and Findlay (1996).
- 34 The prospects for an agreement improve if politically sensitive sectors can be excluded from the agreement (Grossman and Helpman, 1995). This is because sectors that anticipate large losses from a PTA, and lobby for rejection, may be indifferent if the agreement would not alter the protection they are granted from the government. In other words, excluding some sectors may be a way to diffuse political opposition to an agreement and improve the chances of achieving an accord that is both politically viable and welfare improving.
- 35 The work by Krishna (1998) has also important implications for the regionalism versus multilateralism debate, as it implies that politically feasible PTAs are likely to hinder multilateral trade opening. This issue will be further taken up in Section E.
- 36 This would be the case if p_B^T , the border price faced by producers located in 1 that sell in the Home market, is lower than p_C , the price at which producers located in 2 can sell in Home.
- 37 Those analyses are restricted to non-cooperative multilateral settings (i.e. where a multilateral trade agreement such as the GATT/WTO is not in place). Ornelas (2008) studies how the formation of PTAs affects external tariffs and global welfare in a cooperative multilateral environment. This model shows that the complementarity between external and preferential tariffs found in the literature discussed in Section C.2(e) generalizes to the case where cooperation at the multilateral level is significant.
- 38 Other works that have made a similar point on the role of trade preferences in inducing cooperation in other policy domains are Jackson (1997); Perroni and Whalley (2000); and World Bank (2000).
- 39 Hereafter referred to as RoOs.
- 40 This is affected by the MNCs operating in Chile, of which 53 per cent responded that the RoOs had been the deciding factor. In the other three countries, less than 20 per cent of MNCs reported RoOs as the determining factor.
- 41 The authors control for other variables that changed between the pre-1997 and post-1997 periods, as well as for unobservable pair-specific factors.
- 42 Note that Table C.1 does not necessarily imply a linear progression between different stages of integration. For instance, a customs union can be formed even in the absence of FTA+ harmonizations or a monetary union does not necessarily imply that a common market has been preliminarily established.
- 43 See Section B.1 for data and a further discussion.
- 44 Systematic empirical analysis of the international fragmentation of production is missing due to lack of data. However, recent economic literature highlights three major trends. First, both merchandise and services offshoring has rapidly increased in the last two decades. Second, although international outsourcing of intermediate goods is quantitatively more important, services offshoring has been increasing at a faster pace in recent years. Third, these trends have been widespread across sectors and types of inputs (Helpman, 2006).
- 45 See Lipson (1982); Cantwell (1994); Cheng et al. (2000); Arndt and Kierzkowski (2001); Cheng and Kierzkowski (2001); Ando (2005); and Blanchard (2005).
- 46 See Arndt (2004a, 2004b).
- 47 Potential cost savings from intra-product specialization may be lowered by restrictive rules of origin in the case of a free trade area.
- 48 See Grunwald and Flamm (1985).
- 49 In addition, studies such as Anderson and van Wincoop (2004) have also shown that, following recent waves of liberalization, non-tariff barriers to trade like shipping costs have become more relevant.

- 50 See Fujita et al. (2001) for a theoretical analysis of clustering at the international level.
- 51 Several empirical papers using gravity models show that there is a positive relationship between proximity to international centres of economic activity and per capita income levels (Hummels, 1995; Leamer, 1997).
- 52 Horizontal FDI, on the other hand, is still determined mostly by market size and these investment flows are characterized by being between developed economies.
- 53 The lack of a deep Asian regional trade agreement has been compensated with other ways of liberalization such as bilateral investment treaties (BITs), which, according to UNCTAD, increased dramatically during the 1990s, and unilateral liberalization and pro-business reforms promoted by emerging markets to attract FDI. In addition, there is also evidence that several countries in East Asia have concentrated their public resources on the development of economic infrastructures that facilitate production-sharing (Ando and Kimura, 2005; Ando, 2005).
- 54 In the Antràs and Staiger (2008) model, final goods producers and input suppliers are located in different countries. Contracts are incomplete and investments are relation-specific. In this context, governments have an incentive to use trade policy beyond terms-of-trade effects, as it affects the conditions of *ex post* bargaining between foreign suppliers and domestic producers. This is at the root of the new cross-border spillover effect created by the rise in offshoring.
- 55 Beggar-thy-neighbour is an expression in economics describing policies that seek benefits for one country at the expense of others.
- 56 Common policies and regulations are seen here as the result of international cooperation. An alternative is that one country that has a higher bargaining power imposes its policy and regulatory framework on the other (possibly in exchange for market access or as a form of hegemonic imposition). The latter case is briefly discussed below.
- 57 For a survey of this literature, see Oates (1999). Ruta (2005) and Alesina and Spolaore (2005) provide extensive discussions of the related political economy literature on deep integration (i.e. the formation of international unions).
- 58 The Oates Theorem is based on the assumption that governments have no political motivations and maximize social welfare. A large body of literature has revisited this principle in models that account for political motivations of governments (Alesina and Spolaore, 1997; Bolton and Roland, 1997; Besley and Coate, 2003; Alesina and Spolaore, 2005; Alesina et al., 2005; Lockwood, 2008; Brou and Ruta, 2006). These political economy motivations can explain the departure from Oates' normative theory and the observed allocation of competencies in the EU (Ruta, 2010).

Technical Appendix: Systemic effects of PTAs

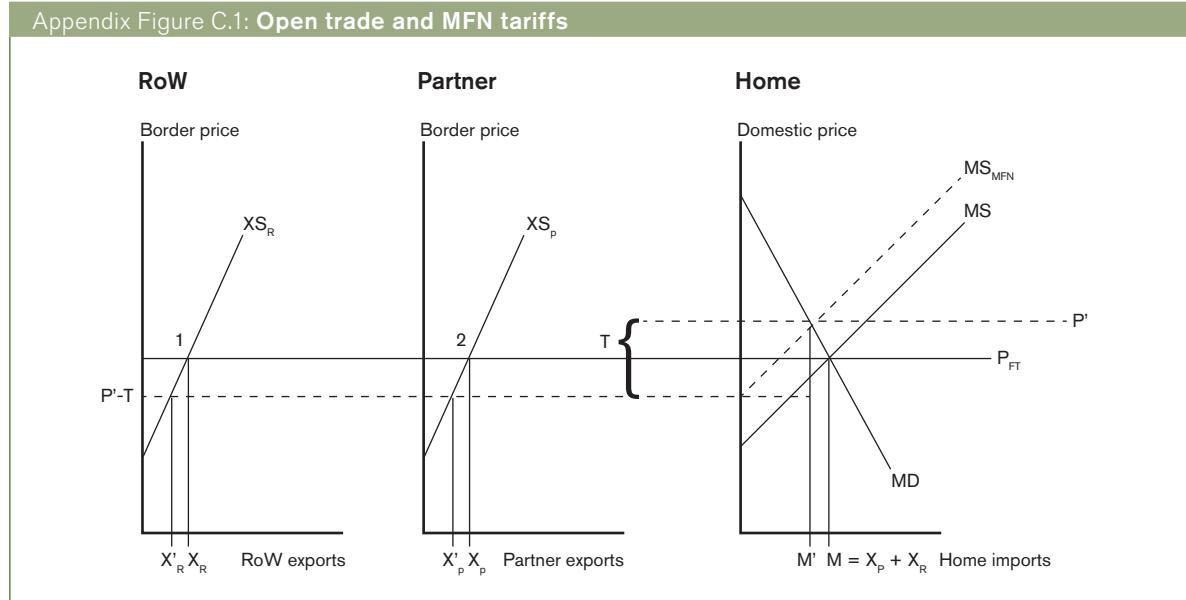
This appendix focuses on the systemic effects of PTAs – that is, on the consequences of preferential arrangements for members and non-members. The approach used is based on a graphical analysis and draws on the work of Baldwin and Wyplosz (2004).

Suppose that initially there is open trade across all countries. Under these conditions, Home imports the quantity M at a price of P_{FT} defined by the equilibrium of the import supply (MS) and import demand (MD) curves in Home (see Appendix Figure C.1). Note that M is the sum of the export quantities from RoW (X_R) and Partner (X_P) given by the intersection of the open trade price line P_{FT} , with each country export supply curve shown as points 1 and 2 in the diagram, respectively.

If Home moves from free trade to applying a uniform MFN tariff to all countries, the imposition of such a tariff shifts the import supply curve up to MS_{MFN} . As a consequence of the tariff T , the domestic price for the good at Home rises to P' and the quantity of imports is reduced to M' . Meanwhile, the new border price for countries exporting to Home is given by $P' - T$. At this lower price, producers from RoW and Partner are willing to supply less and exports are reduced to X'_R and X'_P , respectively.

After Home and Partner conclude a PTA, one of Home's import suppliers gets duty-free access while the rest still pay T . Therefore, the new import supply curve in Home, given by MS_{PTA} , will lie between the original open trade and MFN supply curves (Appendix

Appendix Figure C.1: Open trade and MFN tariffs



Appendix Figure C.2: PTA price and quantity effects

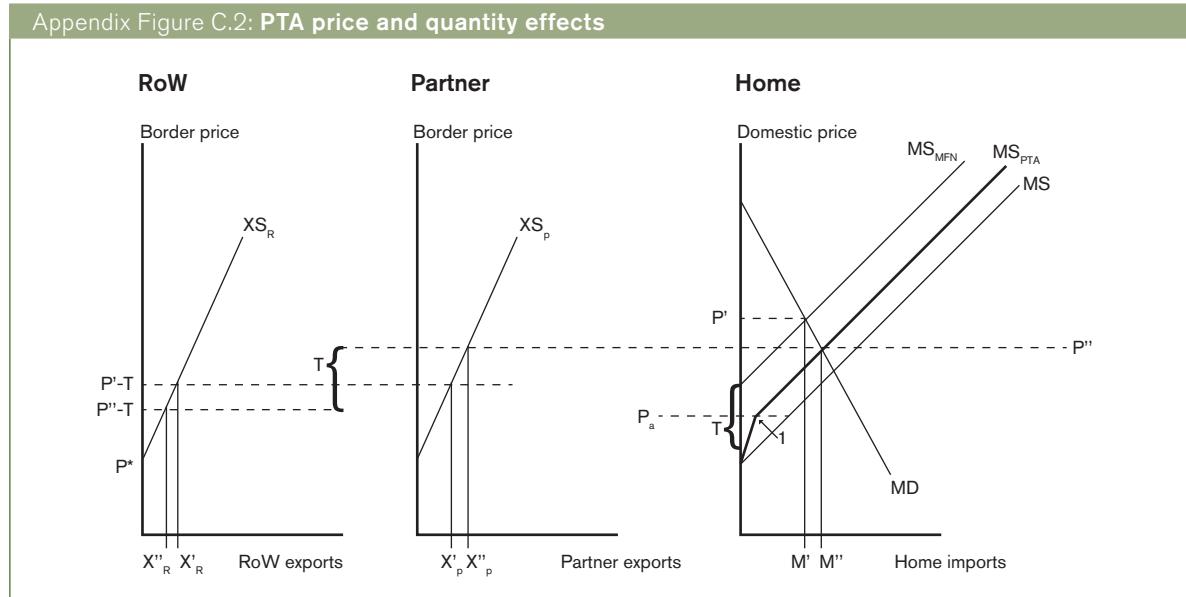


Figure C.2). MS_{PTA} is not a straight line because there is a threshold price below which only producers from Partner will be willing to export. The tariff prevents RoW firms from exporting until the domestic price at Home rises above the price marked P_a . This is so because when Home's domestic price is below P_a , the border price faced by RoW exports is below their zero-supply price marked as P^* . Consequently, Partner firms have an effective "monopoly" over the access to Home's market up to the quantity denoted by the point 1. After this point, firms from RoW will also supply imports to Home and MS_{PTA} resumes its normal slope.

In the post-PTA equilibrium where MS_{PTA} meets MD, Home will import the quantity M'' and the new domestic price is P'' , which is lower than the MFN domestic price P' . The PTA's impact on border prices is more complex. For Partner-based producers, liberalization means that their border price rises from $P' - T$ to P'' , Home's new domestic price. For RoW-based producers, however, the border price falls from $P' - T$ to $P'' - T$. A way to understand this effect is to think that RoW firms must cut their border price so that they can enter Home's market and be competitive (be able to sell at a domestic price of P'') after the tariff T is added to their exports. As a result of this change in border prices, Partner exports increase to X''_P while those from RoW fall to X''_R .

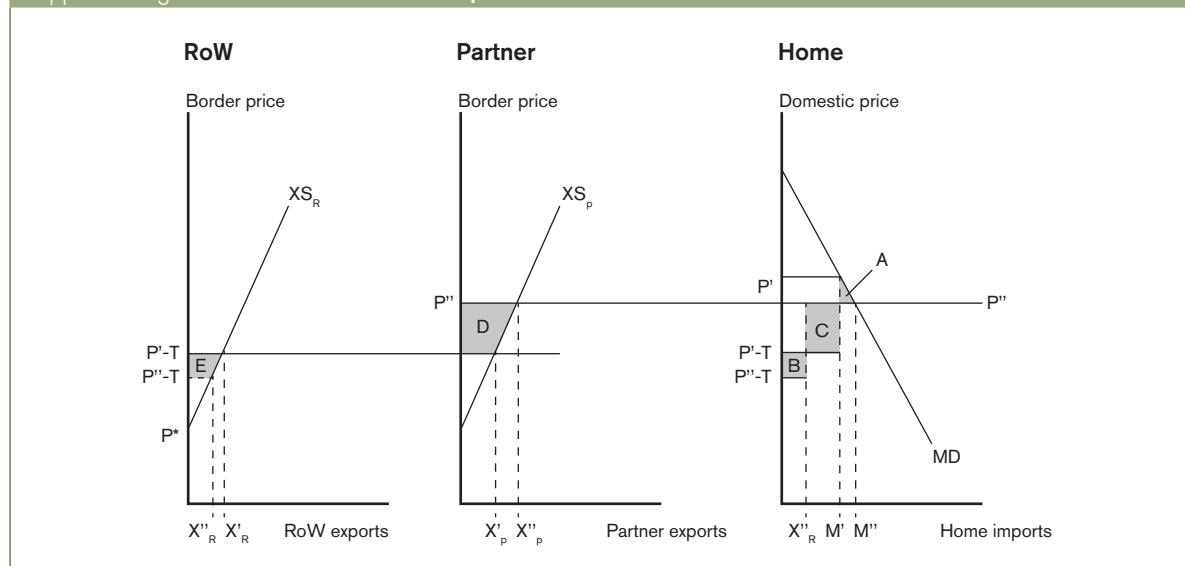
The change in Home's import composition where goods from Partner are favoured over those of RoW is known as trade diversion. In other words, discriminatory liberalization induces Home to switch some of its purchases to import suppliers who benefit from the PTA and away from suppliers from nations that were excluded. The PTA has distorted price signals so that Home consumers are not aware that Partner goods may actually cost more than those from RoW. Home consumers ignore the border price of goods and only observe the domestic price P'' , which is the same for imports from any source.

To measure the welfare effects of the PTA, we must evaluate the impact it has on the foreign exporting countries (Partner and RoW) and on the importing country (Home). These effects are shown in Appendix Figure C.3. It is straightforward that the trade agreement has favoured Partner as it experiences a positive border price effect (from price $P' - T$ to P'') and a positive trade volume effect (from quantity X'_P to X''_P). Thus, Partner's gains are captured by the shaded area D. The opposite is true of RoW as it experiences equal but negative effects. RoW loses from the PTA because it faces a lower border price for its goods at $P'' - T$ and its trade volume also falls to the quantity X''_R . These losses are captured by the shaded area E.

The PTA has more ambiguous welfare effects on Home as it has created a positive trade-volume effect but also some conflicting terms-of-trade effects that stem from the differentiated (discriminatory) post-PTA border-prices Partner and RoW face. By lowering the domestic price, preferential liberalization has increased imports from M' to M'' , leading to a gain in consumption measured by the shaded area A. The positive trade-volume effect that has led to an efficiency gain in consumption can be seen as the trade creation effect of the PTA. In other words, the PTA has created trade by allowing Home to add the import quantity $M'' - M'$ that was not present before the agreement.

Turning to the price effects of the PTA, Home experiences an improvement in terms of trade against RoW as imports from this country have become cheaper. Thus, Home imports a quantity of X''_R from RoW at a lower cost and gains from this change in border price (the shaded area B). The area B can be seen as a production efficiency gain, as producers from RoW have to become more efficient to compete in Home's market while facing a lower border price. On the other hand, Home experiences a deterioration in terms-of-trade against Partner as imports from this country have become more expensive after the PTA.

Appendix Figure C.3: Welfare effects of preferential liberalization



The hike in the border price affects the quantity $M' - X'$ and yields a loss to Home equal to the shaded area marked C in the diagram. Since we have assumed Partner and RoW to be identical, and therefore there is not a more efficient producer, we concluded that under open trade Home imported an equal amount from both countries (50-50 share). After the PTA, however,

imports from Partner are favoured and represent a larger share of Home's imports. Thus, a portion of area C captures the trade-diversion effect of the PTA, namely the amount of imports that have been diverted away from RoW's original share in Home's market. The net welfare effects of the PTA on Home are given by $(A + B) - C$, which might be positive or negative.

Appendix Table C.1: Empirical findings on trade creation and trade diversion

| Authors | Data and methodology | Trade creation | Trade diversion |
|-----------------------------|---|---|--|
| Romalis (2007) | CGE approach on trade flows between the United States, Canada, Mexico and the rest of the world in the period 1989-1999. The paper focuses on Canada-US Free Trade Agreement (CUSFTA) and North America Free Trade Agreement (NAFTA) | Evidence of trade creation only for trade flows involving Mexico | Evidence of trade diversion by CUSFTA and NAFTA |
| Trefler (2004) | CGE approach on Canadian imports from US and the rest of the world in the period 1989-1996. The paper focuses on NAFTA | NAFTA raised Canadian imports from the United States | NAFTA lowered Canadian imports from the rest of the world |
| Clausing (2001) | CGE approach on US imports from Canada and the rest of the world between 1989 and 1994. The paper focuses on CUSFTA | The tariff liberalization by CUSFTA was responsible for USD 21 increase in US imports from Canada between 1989 and 1994 | There is no evidence of trade diversion |
| Soloaga and Winters (2001) | Gravity model on bilateral imports for 58 countries from 1980 to 1996. The paper focuses on the European Union (EU), European Free Trade Area (EFTA), Association of Southeast Asian Nations (ASEAN), Gulf Co-operation Council (GULFCOOP), NAFTA, Central American Common Market (CACM), Latin American Integration Association (LAIA), Andean Community (ANDEAN), Southern Common Market (MERCOSUR) | All the PTAs involving Latin American countries have a positive effect on intra-bloc trade | Trade diversion effect for EU and EFTA |
| Baier and Bergstrand (2007) | Gravity model on bilateral trade flows for 96 countries from 1960 to 2000 | PTA increases trade between two member countries by about 100 per cent on average after 10 years | - |
| Frankel et al. (1995) | Gravity model on bilateral trade flows for 63 countries over the period 1965-1990. The paper focuses on East Asia Economic Caucus (EAEC), Asia-Pacific Economic Co-operation (APEC), European Community (EC), EFTA, NAFTA, MERCOSUR and ANDEAN | PTAs boost trade between member countries (exceptions are EFTA and NAFTA which do not have significant effect on trade flows) | - |
| Lee and Shin (2006) | Gravity model on bilateral trade flows for 175 countries from 1948 to 1999 | Joining a PTA raises intra-bloc trade by 51.6 per cent | PTA members' trade with non-members rises by 6.5 per cent |
| Carrere (2006) | Gravity model on bilateral imports for 130 countries from 1962-1996. The paper focuses on EU, ANDEAN, CACM, LAIA, MERCOSUR, NAFTA and ASEAN | There is evidence of trade creation effect for 5 out of 7 PTAs analysed | The increase in intra-regional trade is coupled with a reduction in imports from the rest of the world in 6 out of 7 PTAs analysed |
| Egger (2004) | Gravity model on bilateral exports for OECD countries from 1986 to 1997. The paper focuses on EU, EFTA and NAFTA | Strong evidence of trade creation effect | - |
| Magee (2008) | Gravity model on bilateral trade flows for 133 countries from 1980 to 1998 | The long run impact of a PTA is estimated to be an 89 per cent increase in trade flows | No evidence of trade diversion |
| Silva and Tenreyro (2006) | Gravity model on bilateral export flows for 136 countries in 1990 | Strong evidence of trade creation | - |

Appendix Table C.1: Empirical findings on trade creation and trade diversion (continued)

| Authors | Data and methodology | Trade creation | Trade diversion |
|-----------------------------|--|--|---|
| Ghosh and Yamarik (2004) | Gravity model on bilateral trade flows for 186 countries over the period 1970-1995 | PTA membership raises intra-bloc trade by 39 per cent | PTA membership lowers trade outside the bloc by 6 per cent |
| Baier and Bergstrand (2009) | Non-parametric estimations on bilateral trade flows for 96 countries over the period 1965-2000 | Average long run effect of PTAs on trade flows is 100 per cent | - |
| Aitken (1973) | Gravity model on bilateral trade flows for 12 countries over the period 1951-1967. The paper focuses on EFTA and EEC | Positive effect of PTAs on bilateral trade | - |
| Bergstrand (1985) | Gravity model on bilateral trade flows for 15 countries for years 1965, 1966, 1975 and 1976. The paper focuses on EFTA and EEC | PTAs had a positive effect on bilateral trade | - |
| Acharya et al. (2011) | Gravity model on bilateral trade flows for 179 countries over the period 1970-2008 | The impact of PTAs on intra-PTA trade is positive for 17 out of 22 PTAs analysed. PTAs also increase imports and exports from member countries to non-member countries by 20 per cent and 21.5 per cent on average | Intra-PTA trade diversion has been found in 3 out of 22 PTAs analysed; 5 PTAs lower the extra-PTA exports from member to non-member countries |

D. Anatomy of preferential trade agreements

This section considers to what extent conclusions about deep preferential trade agreements (PTAs) and production networks, reached in Section C, are supported by evidence. The evidence presented includes an examination of the magnitude of preferential tariff rates, the coverage and contents of the agreements, econometric evidence on the relationship between production networks and deeper PTAs and the integration experience of specific PTAs.

Contents

| | |
|---|-----|
| 1. Are lower tariffs still important for PTAs? | 124 |
| 2. Patterns in the content of PTAs | 128 |
| 3. Production networks and deep PTAs | 145 |
| 4. African regional cooperation: lessons from deep integration? | 151 |
| 5. Conclusions | 153 |
| Appendix tables | 157 |

Some key facts and findings

- MFN tariffs are low and equal to 4 per cent on average in 2009.
- Most “sensitive” sectors remain “sensitive” in PTAs. Approximately 66 per cent of tariff lines with MFN rates above 15 percentage points have not been reduced in PTAs.
- If the preferential access enjoyed by other exporters is taken into account, less than 13 per cent of preferential trade benefits from a competitive advantage exceeding 2 percentage points.
- Signing deep integration PTAs increases trade in production networks by almost 8 per cent on average. In addition, high levels of trade in production networks raise the likelihood of signing deep agreements.

1. Are lower tariffs still important for PTAs?

Tariffs have progressively fallen since the establishment of the General Agreement on Tariffs and Trade (GATT) in 1948. The pre-GATT average tariff among major trading countries was between 20 and 30 per cent.¹ Since then, unilateral liberalization, eight rounds of multilateral trade negotiations and numerous PTAs have significantly reduced the tariffs applied by WTO members. In 2009, the average applied tariff across all products and countries was a mere 4 per cent.

The process of most-favoured nation (MFN) liberalization (i.e. the reduction of tariffs on an MFN basis for all WTO members) accelerated in the late 1980s and 1990s, when applied tariffs were reduced in many developing countries. The rates applied by developed countries were already low, at around 6 per cent on average by the end of the 1980s. They continued to decline subsequently, to an average of approximately 3 per cent in 2009. Average applied tariffs have been falling in all regions (see Figure D.1). In South-Central America, the average tariff rate fell from over 30 per cent at the beginning of the 1990s to less than 10 per cent ten years later. Over the same period, tariffs in East Asia dropped from around 15-20 per cent to some 6 per cent in 2009. Similarly, in Africa, applied MFN tariffs fell from an average rate of roughly 30 per cent to some 12 per cent in 2009. The reduction of

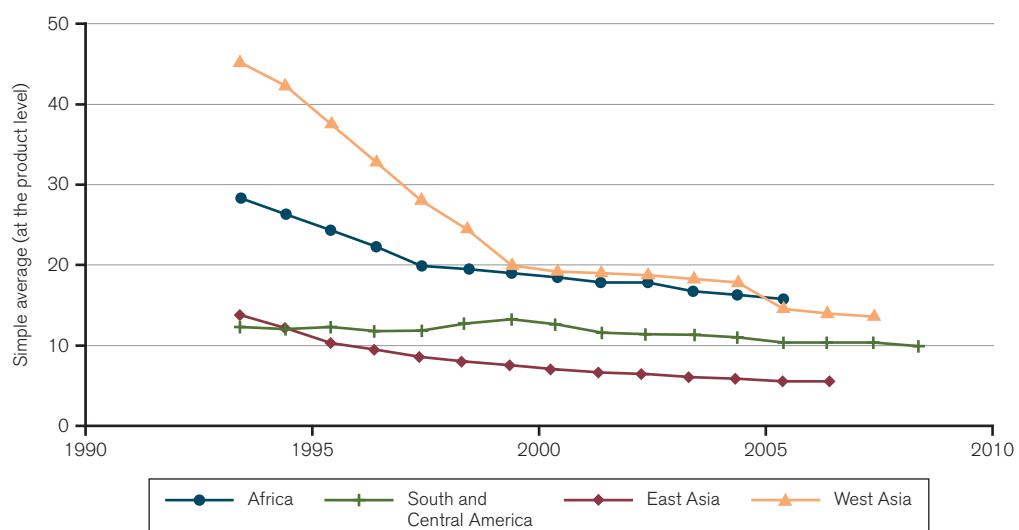
tariffs was more pronounced in West Asia, where the average MFN applied tariff rate fell from an average of about 45 per cent to below 15 per cent.

Tariff reductions have not occurred at the same pace in all sectors. Significant tariff barriers still exist in agriculture and some manufacturing sectors. Most MFN tariff reductions took place in manufactured goods, however, with particular emphasis on parts and components (see Figure D.2). The latter trend accompanied the development of production networks.

Despite variance in tariff rates around the average, low average MFN rates suggest that the scope for exchanging preferential market access is unlikely to be extensive. A similar conclusion is suggested by the data on trade flows. As seen in Section B, the share of MFN duty-free trade in total trade is estimated at 52 per cent in 2008 (excluding trade within the EU), and over 70 per cent of total trade occurs at an MFN tariff rate of below 5 per cent.

Moreover, PTAs cannot be satisfactorily explained by a desire to remove tariff peaks (i.e. relatively higher tariffs). Most "sensitive" sectors with higher tariffs also tend to retain higher tariffs in PTAs. As shown in Figure D.3, for example, tariff lines subject to an MFN rate above 15 per cent continue to be subject to relatively high rates in PTAs. According to the 2007 data reported in the figure, approximately 66 per cent

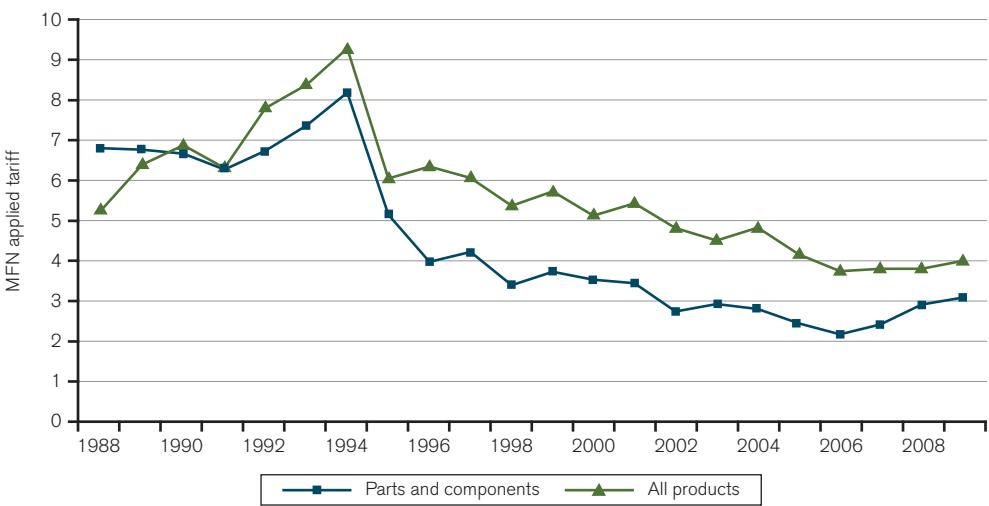
Figure D.1: MFN tariff trends in developing countries by region (Percentage)



Note: In order to avoid sample selection bias, figures have been calculated for a balanced sub-sample of countries in each region and missing data have been interpolated. In this subsample, East Asia comprises 13 economies (Australia; Kingdom of Bahrain; China; Hong Kong; China; Indonesia; Japan; Republic of Korea; Malaysia; New Zealand; Philippines; Singapore; Thailand; and Chinese Taipei); West Asia covers four countries (Bangladesh; India; Sri Lanka; and Nepal); South and Central America is made up of 12 countries (Argentina; the Plurinational State of Bolivia; Brazil; Chile; Colombia; Cuba; Ecuador; Paraguay; Peru; Trinidad and Tobago; Uruguay; and the Bolivarian Republic of Venezuela); and Africa includes 11 countries (Burkina Faso; Côte d'Ivoire; Algeria; Ghana; Morocco; Nigeria; Rwanda; Tunisia; Tanzania; South Africa; and Zimbabwe). The data used in the figure are simple averages of *ad valorem* lines in all sectors.

Source: Calculations based on Trains database, WITS.

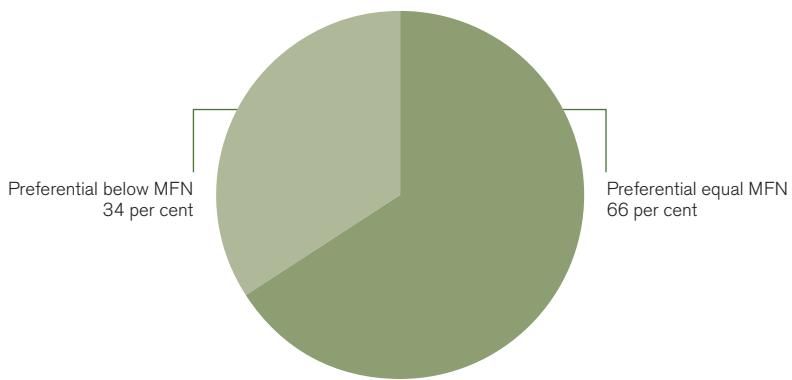
Figure D.2: World MFN applied tariff trends (Percentage)



Note: Underlying data are trade-weighted averages of *ad valorem* rates.

Source: Trains database, WITS.

Figure D.3: Preferential reductions of tariff rates above 15 per cent, 2007



Note: "Preferential equal MFN" denotes the share of tariff lines at the HS-6 level with an MFN rate above 15 per cent that have not been reduced under PTAs. "Preferential below MFN" denotes the share of tariff lines that have been at least partially reduced.

Source: Calculations based on the Fugazza and Nicita (2010) database, covering the PTAs of 85 countries, accounting for 90 per cent of world trade.

of the tariffs above this rate have not been reduced at all through PTAs. This means that "preferential" rates are no lower than MFN rates.

Recent work has emphasized that the value of a particular preferential tariff must be gauged in the context of an importing country's overall tariff policy.² Thus, in a world of numerous PTAs, the advantage conferred by a preferential tariff to a given exporter does not depend only on that rate, but also on tariffs faced by competing suppliers from other countries in the same market.

In order to account for the actual advantage provided by preferences, Low et al. (2009) use the concept of a "competition-adjusted" preference margin, calculated as the percentage-point difference between the weighted

average tariff rate applied to the rest of the world and the preferential rate applied to the beneficiary country, where weights are represented by trade shares in the preference-granting market (see Box D.1).

Unlike a traditional preference margin which was the basis of the analysis in Section B, this competition-adjusted preference margin can assume positive as well as negative values. A negative value indicates that, in a specific market, a certain country faces worse market conditions than its trade competitors.³ Competition-adjusted preference margins emphasize the fact that PTAs can result from the desire to avoid negative discrimination rather than to benefit from a positive preference margin. This is the underlying argument for the so-called "domino effect" to explain the proliferation of PTAs (see Section C).

Box D.1: Measurement of the value of preferences

Traditionally, the value of a preference margin for a beneficiary country has been measured simply as the difference in terms of percentage points between the MFN rate and the preferential tariff. Or, expressed formally:

$$\text{Traditional preference margin} = T_{k,i}^{MFN} - T_{k,i}^j$$

where $T_{k,i}^{MFN}$ is the MFN rate applied by country k on product i and $T_{k,i}^j$ is the preferential rate applied to country j . By definition this margin can only be positive.

A limitation of this measure of the value of the preference is that it cannot address the question whether the putative advantage of a preference effectively helps the beneficiary to export to the preference-giving country. Since numerous and overlapping preferential trade agreements exist around the world, the MFN rate does not provide an appropriate basis for calculating the preference margin. On the contrary, the value of a preference for one country will ultimately depend on the advantage/disadvantage it has vis-à-vis the other countries competing in the same market.

The “competition-adjusted” preference margin proposed by Low et al. (2009) addresses this concern by measuring the value of a preference as the percentage-point difference between the weighted average tariff rate applied to the rest of the world and the preferential rate applied to the preferential agreement partner, where weights are represented by trade shares in the preference granting market. The formula for this measure is expressed as follows:

$$\text{Competition-adjusted preference margin for product } i = T_{k,i}^w - T_{k,i}^j$$

where $T_{k,i}^w = \frac{\sum_v X_{vk,i} T_{k,i}^v}{\sum_v X_{vk,i}}$ is the export-weighted (X in the formula denotes exports of v into k) average

tariff imposed by country k on all other exporting countries v (excluding country j) in respect of product i . Equivalently, the formula captures weighted tariff imposed by k on imports from all other countries but j . As before, $T_{k,i}^j$ is the preferential rate applied to country j . This competition-adjusted preference margin can be positive or negative, depending on whether exporters of good i from country j benefit from market access conditions more or less favourable than the other trading partners of country k in the same market.

In order to measure the overall level of advantage or disadvantage that a beneficiary under a PTA faces in entering another market in the preferential area, Fugazza and Nicita (2010) estimated the overall value to a country of preferences in terms of the degree of responsiveness of import demand to variations in price (price elasticity of import demand), taking into account the trade share of the country concerned. Under this specification of the value of the preference, which the authors call the “relative preference margin” (RPM), preference margins are thus weighted by the relevant import demand elasticity and by the export share of the preference-receiving country. The rationale for including these elements in the preference margin calculation is that a preference margin is more or less valuable to the exporting country depending on the elasticity of demand in the importing country and on the export capability of the exporting country. When import demand is elastic, a given preference margin gives rise to larger increases in import demand than when the import demand is inelastic. In addition, a preference is more valuable to an exporter the higher the level of exports.

The formula for the RPM is:

$$RPM_{jk} = \frac{\sum_i X_{jk,i} \epsilon_{ki} (T_{k,i}^w - T_{k,i}^j)}{\sum_i X_{jk,i} \epsilon_{ki}}, j \neq k$$

where ϵ is an estimate of the price elasticity of demand for an import, and the other variables are defined as above.

Table D.1: Share of tariff lines and trade by level of competition-adjusted preference margin, 2000 and 2007 (Percentage)

| Competition-adjusted preference margin | 2000 | | 2007 | |
|---|------------|---------------|------------|---------------|
| | TL covered | trade covered | TL covered | trade covered |
| < -30 | 0.2 | 0.0 | 0.1 | 0.0 |
| -30; -15 | 1.1 | 0.3 | 0.5 | 0.1 |
| -15; -5 | 7.1 | 3.4 | 4.6 | 2.3 |
| -5; -2 | 9.3 | 5.8 | 6.3 | 3.5 |
| -2; 2 | 72.4 | 77.8 | 79.0 | 87.3 |
| of which MFN = 0 | 9.2 | 18.5 | 25.3 | 42.5 |
| 2; 5 | 5.7 | 7.6 | 5.6 | 4.5 |
| 5; 15 | 3.7 | 4.1 | 3.1 | 2.0 |
| 15; 30 | 0.4 | 0.9 | 0.6 | 0.2 |
| > 30 | 0.1 | 0.1 | 0.1 | 0.0 |

Source: Calculations based on the Fugazza and Nicita (2010) database, covering the PTAs of 85 countries, accounting for 90 per cent of world trade.

Table D.1 shows the distribution of competition-adjusted preference margins at the Harmonized System (HS) 6-digit level for the years 2000 and 2007. The distribution is highly concentrated, falling within the range of -2 per cent and +2 per cent. In 2007, over 87 per cent of trade fell inside this range. Except perhaps for highly demand-elastic goods that are particularly responsive to price changes, these numbers suggest that today tariff preferences are unlikely to be a sole reason, or in some cases not even a major one, for countries entering PTAs.

A limitation of using competition-adjusted preference margins as a measure of the value of preferences is that they do not take into account the fact that imports of some goods can be more responsive than others to changes in price. A reduction of the tariff on a good whose demand is inelastic (i.e. not very sensitive to price changes) will have a smaller impact on the overall volume of trade than a reduction of the same magnitude for demand-elastic goods. Even a low preference margin may trigger significant changes in the volume of trade when the import demand for the good is elastic. In these circumstances, even low preference margins might lead to the establishment of PTAs. Applying product-specific price elasticities to products, Fugazza and Nicita (2010) define an index of the overall advantage/disadvantage that exporters in country A face in country B (see Box D.1). This index accords lower weights to competition-adjusted preference margins that are less sensitive to price changes (inelastic goods) than those that are sensitive (elastic goods).

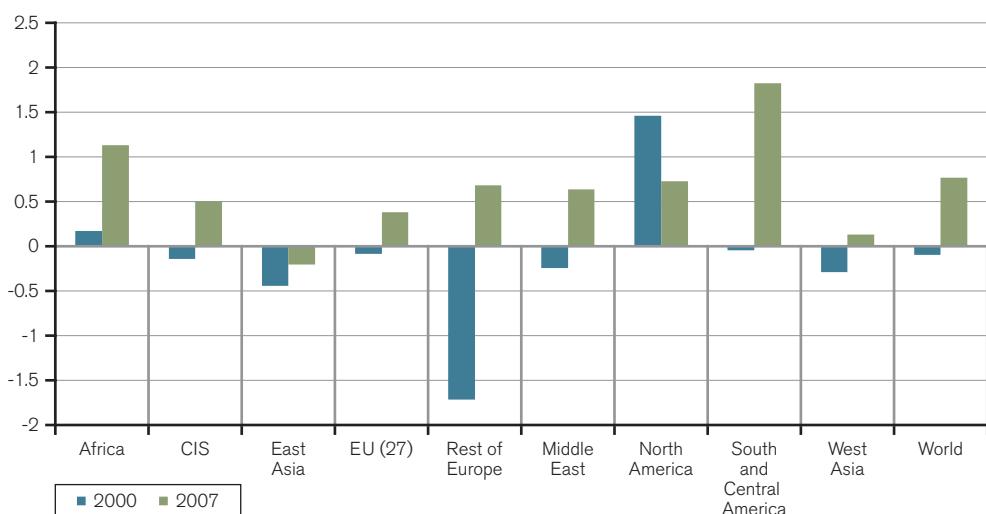
Data based on this relative preference margin (RPM) index was calculated for a sample of 85 countries covering 90 per cent of trade between 2000 and 2008. As shown in Figure D.4, RPMs improved on average across all regions between 2000 and 2007, except in North America, where the initial competitive advantage of the region has been eroded by the proliferation of

PTAs in other areas. In general, PTAs have helped countries to offset or reduce the negative discrimination they suffer vis-à-vis non-PTA trading partners. For example, countries in South and Central America significantly improved their conditions of market access between 2000 and 2007, mainly because of the numerous PTAs they signed over that period.

Figure D.4 shows that on average RPMs were below 1 per cent in 2007. Africa and South and Central America had RPMs in excess of this average. Fugazza and Nicita (2010) calculated that a 1 per cent change in the RPM would have a trade impact of 0.34 per cent.⁴ This implies that a rise or fall of 2 per cent in trade would require a change in the RPM of at least 5 percentage points. El Salvador is the only country in the sample covered by the Fugazza and Nicita database that satisfies these conditions. This finding reinforces our conclusion that limited scope remains for the pursuit of preferences in PTAs.

In sum, the proliferation of PTAs between 2000 and 2007 has improved the conditions of market access for signatory countries. To a large extent, the improvement has been due to the reduction in the number of instances where relative preference margins were negative (i.e. cases where a country faces worse market conditions than its trade competitors). One may argue, therefore, that PTAs have in part restored a “level-playing field” for those countries that faced worse conditions of access than others. Whether or not adjusted for tariffs faced by other suppliers, the overall level of tariffs faced by exporters is low, as is the volume of trade for which preference margins are significant.⁵ Low average benefits accruing from preferential tariffs on trade may nevertheless conceal larger effects for some products and countries, and this should be borne in mind in the context of the broader conclusion reached in this report that preferential tariffs are no longer a major consideration in PTA formation. We now turn to

Figure D.4: Relative preference margins by region, 2000 and 2007



Note: Relative preference margins by region are in percentage points and are calculated as the simple average of all RPMs of countries in the region.

Source: Calculations based on the Fugazza and Nicita (2010) database.

an analysis of other factors at play, linked particularly to the international fragmentation of production.

2. Patterns in the content of PTAs

If tariffs are no longer so important within PTAs, what is being negotiated in these agreements? To answer this question, we examine in detail the contents of a large sample of PTAs. This examination is conducted first by analysing the sectoral coverage and legal enforceability of various PTAs. The identification of the policy areas and the definition of legal enforceability are based on Horn et al. (2010). The result of this analysis shows that commitments in services, investment, intellectual property protection, technical barriers to trade and competition policy loom large in many PTAs. In the second phase of the analysis, the nature of the commitments in a number of key policy areas is considered.

(a) Sectoral coverage and enforceability

(i) Methodology

The original analysis by Horn, Mavroidis and Sapir (HMS) examined EU and US PTAs with third countries. Their approach can be divided into three stages. First, HMS identify the substantive policy areas covered in PTAs. They consider an area to be covered by an agreement when the latter provides for some form of undertaking in the relevant field. In this respect, HMS base their list of policy areas on article headings in the case of EU agreements and chapter headings in the US agreements. This is one limitation of our use of the HMS approach, since non-US and non-EU PTAs may contain policy areas of importance to countries involved in those PTAs that are not reflected in the US and EU agreements.

The authors identify 52 policy areas which they then classify into two groups. The first group of policy areas, called WTO+ provisions, fall under the current mandate of the WTO and are already subject to some form of commitment in WTO agreements. WTO+ provisions reconfirm existing commitments and provide for additional obligations. The second group of policy areas, which they denote as WTO-X provisions, refer to obligations that are outside the current mandate of the WTO. Table D.2 lists the 52 policy areas that HMS identified as either WTO+ (14 areas) or WTO-X (38 areas).

In a second stage, the legal enforceability of the PTA obligations is ascertained. A policy area that is covered might still not be legally enforceable due to unclear or loosely formulated legal language. The authors' idea appears to be that the clearer, more specific and imperative the legal language used to express a commitment or undertaking, the more successfully it can be invoked by a complainant in a dispute settlement proceeding, and thus the greater likelihood of it being enforced. They have classified certain terms as either implying enforceable or non-enforceable obligations. The strengths and limitations of the definition of "legal enforceability", as applied by HMS, are considered in greater detail in Box D.2.

In a third stage, the "depth" of an obligation is established for some policy areas. The purpose of this step is to establish whether a provision that is legally binding is actually likely to matter in practice. However, HMS did not delve into any substantive examination of the policy. To complete this third step, this report undertakes an in-depth provision-by-provision examination of a number of policy areas.

Table D.2: WTO+ and WTO-X policy areas in PTAs

| WTO+ areas | WTO-X areas |
|-----------------------------|------------------------------|
| PTA industrial goods | Anti-corruption |
| PTA agricultural goods | Health |
| Customs administration | Competition policy |
| Export taxes | Environmental laws |
| SPS measures | IPR |
| State trading enterprises | Investment measures |
| Technical barriers to trade | Labour market regulation |
| Countervailing measures | Movement of capital |
| Anti-dumping | Consumer protection |
| State aid | Data protection |
| Public procurement | Agriculture |
| TRIMs measures | Approximation of legislation |
| GATS | Audiovisual |
| TRIPS | Civil protection |
| | Innovation policies |
| | Cultural cooperation |
| | Economic policy dialogue |
| | Education and training |
| | Energy |
| | Financial assistance |
| | Health |
| | Human rights |
| | Illegal immigration |
| | Illicit drugs |
| | Industrial cooperation |
| | Information society |
| | Mining |
| | Money laundering |
| | Nuclear safety |
| | Political dialogue |
| | Public administration |
| | Regional cooperation |
| | Research and technology |
| | SMEs |
| | Social matters |
| | Statistics |
| | Taxation |
| | Terrorism |
| | Visa and asylum |

Source: Horn et al. (2010).

Box D.2: Legal enforceability

For the purpose of classifying provisions in PTAs as “legally enforceable” or “non-enforceable”, Horn et al. (2010) focus on two variables relating to dispute settlement: (a) the actual terminology of a provision, and in particular whether a provision “specifies at least some obligation that is clearly defined and likely effectively to bind the parties”, as distinguished from vague undertakings that are “not likely to be successfully invoked by a complainant in a dispute settlement proceeding”; and (b) whether the agreement “explicitly states that dispute settlement is not available for the provision” under the PTA.

Although these two variables constitute a solid starting point, there are a number of other variables – including those related to dispute settlement – that could also have a bearing on the “legal enforceability” of obligations arising under PTAs. The HMS study, however, focuses solely on the text of PTAs, and not on their effects or implementation.

Whether or not the actual terminology of a provision establishes a legally enforceable obligation is a question of treaty interpretation. An important consideration is therefore the approach to treaty interpretation adopted in the PTA. For example, in the context of WTO dispute settlement proceedings, the Appellate Body has repeatedly emphasized the principle of “effectiveness” in treaty interpretation, which provides all of the terms of the WTO agreements with a “legally operative meaning”. The Appellate Body has found on more than one occasion that the term “should”, in the same way as “shall”, can give rise to a legal obligation.

The tradition of treaty interpretation stems from the Vienna Convention on the Law of the Treaties 1969 (VCLT). The VCLT is a legal instrument codified by the UN International Law Commission. It sets out rules recognized as customary international law. For present purposes, the relevant rules of treaty interpretation are laid down in Articles 31-33 of the Convention. Article 31 of the VCLT establishes four elements that have to be combined in the interpretation of a treaty. A treaty has to be interpreted: i) in good faith; ii) within the ordinary meaning of its terms; iii) in its specific context; and iv) in the light of its object and purpose.⁶ PTAs are recognized as treaties under international law and have to be interpreted in accordance with the rules of the VCLT.⁷

The strong focus on the use of legal language in a PTA is referred to as a textual or literal interpretation.⁸ The language of a provision reveals its intention and the extent to which it declares legal obligations and rights.⁹ The language also helps to define demarcations and the scope of WTO law in dispute settlement

proceedings. In this respect, treaty language also reveals those areas that have not been negotiated within the framework of the WTO.¹⁰ The process of enforcement, however, makes use of other approaches in WTO dispute settlement. Three aspects of the legal enforceability of a provision are mentioned below, in addition to the textual approach.

First, obligations arising under the WTO agreements may have a bearing on the legal enforceability of obligations under PTAs. HMS consider provisions carved out from dispute settlement proceedings as being non-enforceable. To the extent that a provision of a PTA addresses an area that is also directly or indirectly covered by one or more obligations under the WTO agreements, it remains to be seen whether a PTA can deprive a party of its right of access to the WTO dispute settlement system. In other words, the fact that dispute settlement may not be available in respect of that provision under the PTA would not necessarily preclude a party from having recourse to WTO dispute settlement procedures in respect of the corresponding obligation(s) under the WTO agreements. This complex and unsolved legal question leaves open whether and to what extent rules of conflict leading to the enforcement of a provision under a PTA can override the WTO dispute settlement system.¹¹

Secondly, to the extent that the concept of legal enforceability is linked to the possibility of applying counter-measures to give force to PTA obligations, rights and obligations under WTO agreements limiting the use of trade counter-measures may also have a bearing on the enforceability of certain PTA provisions. Another related issue refers to the enforceability of WTO-X provisions. To what extent is it possible to make use of trade counter-measures to enforce those policy areas not covered by the WTO (Marceau, 2009)? The scope and limitations of the relevant law still need to be clarified.¹²

Thirdly, non-legal considerations are an important factor when determining the enforceability of obligations in trade agreements. This approach encompasses political factors as relevant in the process of legal drafting, thus leading to the adoption of loosely formulated legal language. It does not, however, take external political factors into consideration that might be important for the actual enforcement of a provision in practice.¹³ As HMS acknowledge, "provisions may be enforced not only through a formal judicial dispute settlement mechanism, but also through more political means". In other words, the fact that particular obligations may be carved out from dispute settlement procedures does not necessarily mean that parties cannot seek to enforce such obligations through political or diplomatic means. However, the reverse is also true. The fact that particular obligations are not carved out from dispute settlement procedures does not necessarily mean that legal enforcement through dispute settlement proceedings is always a realistic and viable option.

The vast majority of provisions in regional and bilateral trade agreements are never the subject of any dispute settlement proceedings, even where a right to invoke proceedings exists. In a nutshell, provisions that are legally enforceable in theory may be difficult to enforce in practice, whether on account of political factors, resource constraints, or other non-legal considerations.

The analysis conducted here extends HMS's original analysis of 14 EU and 14 US PTAs to a total of 96 PTAs. Of these, 33 involve the EU and 11 involve the United States. The sample covers some recently concluded EPAs by the EU, with Cameroon and CARIFORUM, for example, as well as Euromed agreements. The 42 other PTAs were concluded by regional trading blocs and major trading powers, such as the Association of Southeast Asian Nations (ASEAN), China, the European Free Trade Agreement (EFTA), India and the Southern Common Market (MERCOSUR). PTAs from Africa (such as COMESA and ECOWAS) and the Middle East (such as the GCC and PAFTA) are also included in the analysis. The sample of PTAs was chosen primarily on account of the volume of trade within the PTA, but also included the initial set of PTAs examined in the HMS study (see Appendix Table D.1 for a detailed list of the PTAs covered).

The HMS study only covers PTAs concluded by WTO members, signed by the parties and mostly notified to the WTO as of October 2008. It considers agreements signed both before and after the creation of the WTO,

but excludes those where partners are not members of the WTO. Three agreements that have been signed but that are not yet ratified were also included in the study. HMS further restricts the selection of PTAs in its study to those concluded under Article XXIV of the GATT or Article V of the General Agreement on Trade in Services (GATS). Agreements notified under the Enabling Clause are not taken into account. All the PTAs considered in the HMS study are free trade agreements, except for EU-Turkey, which is a customs union.

The sample used in this report also includes agreements in which not all partners are members of the WTO. Some non-notified agreements are covered, but all are in force. The sample covers the period from 1958 to 2010. PTAs notified under the Enabling Clause are included along with others notified under GATT Article XXIV and GATS Article V. Eighty-two of the agreements covered are free trade agreements, 12 are customs unions and two are partial scope agreements.¹⁴ Four among the EC agreements are enlargement agreements.

The majority of the EU's PTAs are concluded with neighbouring countries, whereas those of the United States tend to be more widely spread geographically. Included in the coverage are ten PTAs concluded by Japan, seven by China, five by Australia, five by the Republic of Korea and four by India. The sample covers 18 major trading blocs. The analysis here departs slightly from the HMS approach in that certain obligations covered may not be the subject of a dedicated article or chapter. Provisions in the areas of "visa and asylum" or "information society", for example, are often not explicitly mentioned as an article or chapter heading, but in the context of other provisions. Another notable example is export taxes where, unlike HMS, this report considers "customs duties on exports" as synonymous with export taxes. Finally, it should be noted that the analysis relates to the version of the trade agreement as it was signed or notified to the WTO. This means it will not capture subsequent changes to an agreement, such as the addition of new areas of cooperation or a strengthening of existing provisions.

(ii) Empirical evidence on PTA content by income, policy area and over time

Figure D.5 shows that the average number of WTO+ areas covered by PTAs has been increasing over time. From 1958 to 2010, the proportion of legally enforceable provisions was very close to the total number of sectors covered. As described above, WTO+ areas are those covered by existing WTO agreements. The pattern observed suggests that deepening commitments in these areas, i.e. going beyond commitments in the WTO, continue to be a major driving force for recent PTAs.

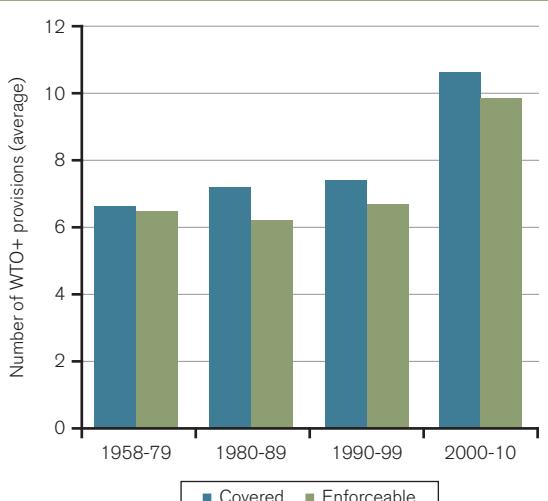
In contrast, the pattern over time of WTO-X provisions is less clear (see Figure D.6). It is certainly the case that PTAs coming into force since 2000 cover more WTO-X areas than agreements established earlier, and that more of them are legally enforceable. However, the gap

between areas covered that are legally enforceable and those that are not is still higher for WTO-X provisions than for WTO+ provisions. Horn et al. (2010) characterize WTO-X provisions as largely regulatory in nature. Using this interpretation, and even accounting for the smaller proportion of these areas that are enforceable, the growth in the average number of WTO-X provisions in recent PTAs is a testimony to the growing importance of behind the border measures in PTAs.

Which specific policy areas figure prominently in preferential trade agreements? Figure D.7 presents the number of PTAs in the sample with specific WTO+ provisions. As expected, all of the 96 agreements contain provisions relating to industrial and agricultural tariffs. However, an increasingly large number of PTAs now go beyond merchandise tariffs, including provisions on technical barriers to trade, services, intellectual property and trade-related investment measures. Figure D.7 also shows that even if one examines each of the WTO+ areas individually, there is not much of a gap between coverage and legal enforceability.

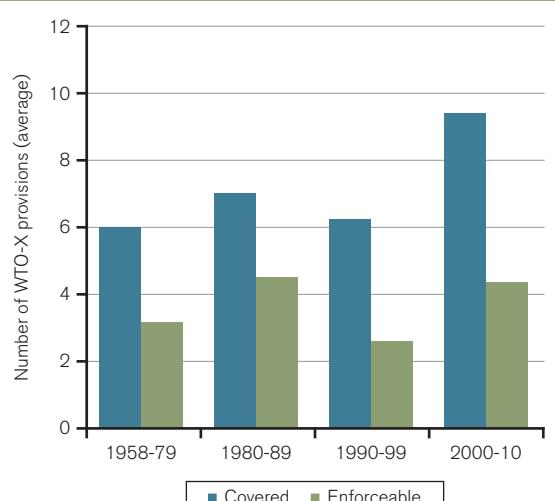
The main policy areas covered by WTO-X provisions are competition policy, intellectual property rights, investment and movement of capital (see Figure D.8). These are also the policy areas that are most often legally enforceable in PTAs. The next largest group of policy areas with legally enforceable provisions (present in about one-third of the agreements) are environmental laws, labour market regulations and measures on visa and asylum. The remaining legally enforceable policy areas appear in less than ten of the agreements. So while there appears to have been a significant increase in new policy areas in PTAs, the picture that emerges from Figure D.8 is more nuanced. Only a handful of truly important areas are affected, where importance is judged by whether the provisions can be enforced by the parties to the agreement.

Figure D.5: Covered and enforceable WTO+ provisions over time



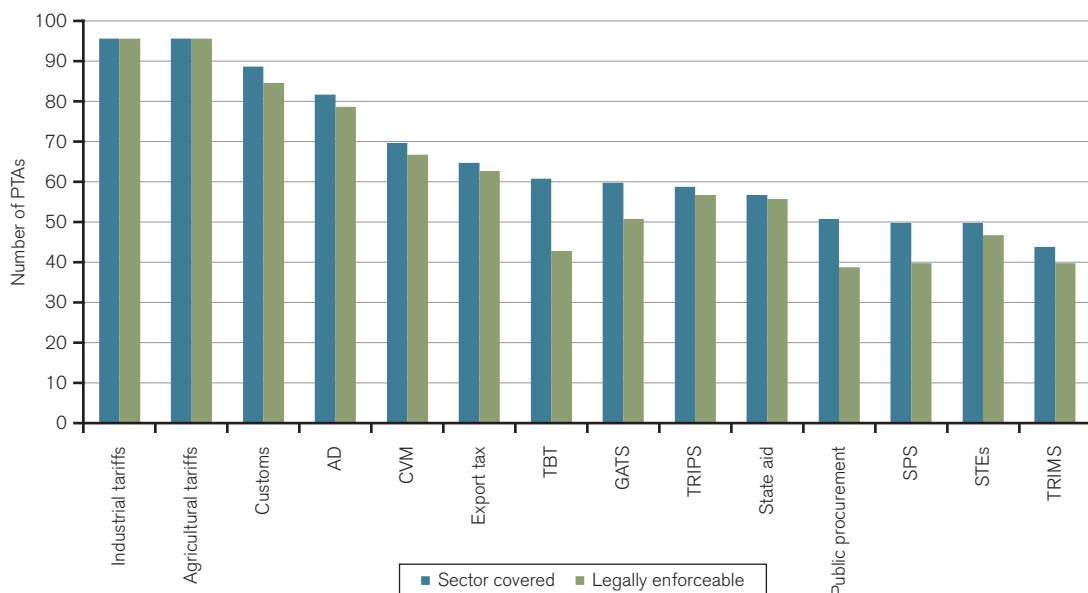
Source: WTO Secretariat.

Figure D.6: Covered and enforceable WTO-X provisions over time



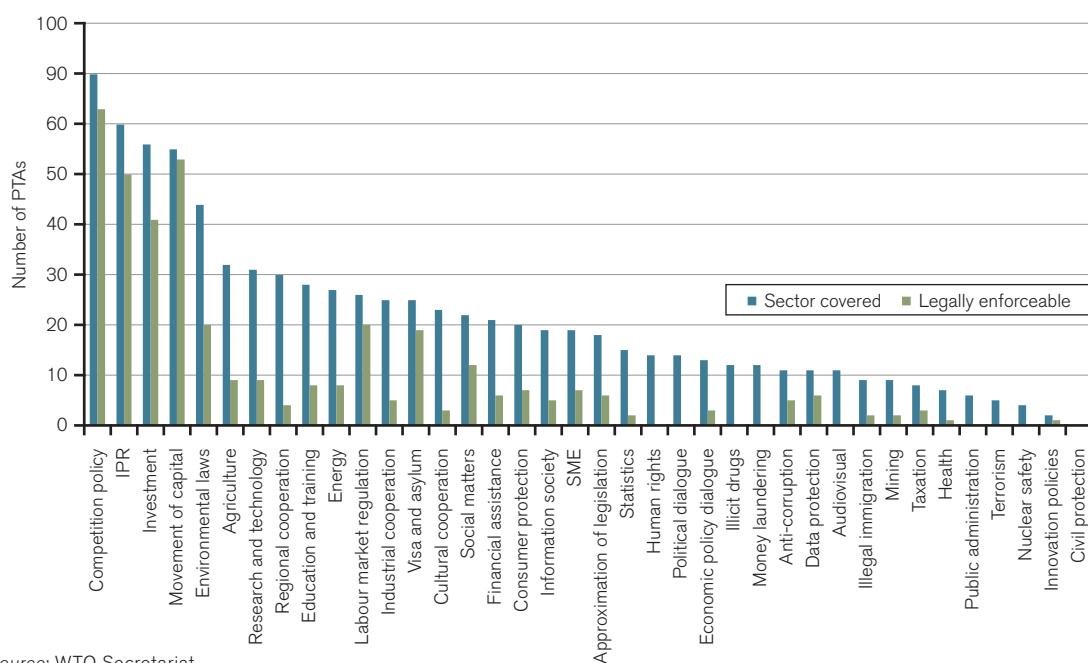
Source: WTO Secretariat.

Figure D.7: Number of agreements covering WTO+ provisions



Source: WTO Secretariat.

Figure D.8: Number of agreements covering WTO-X provisions

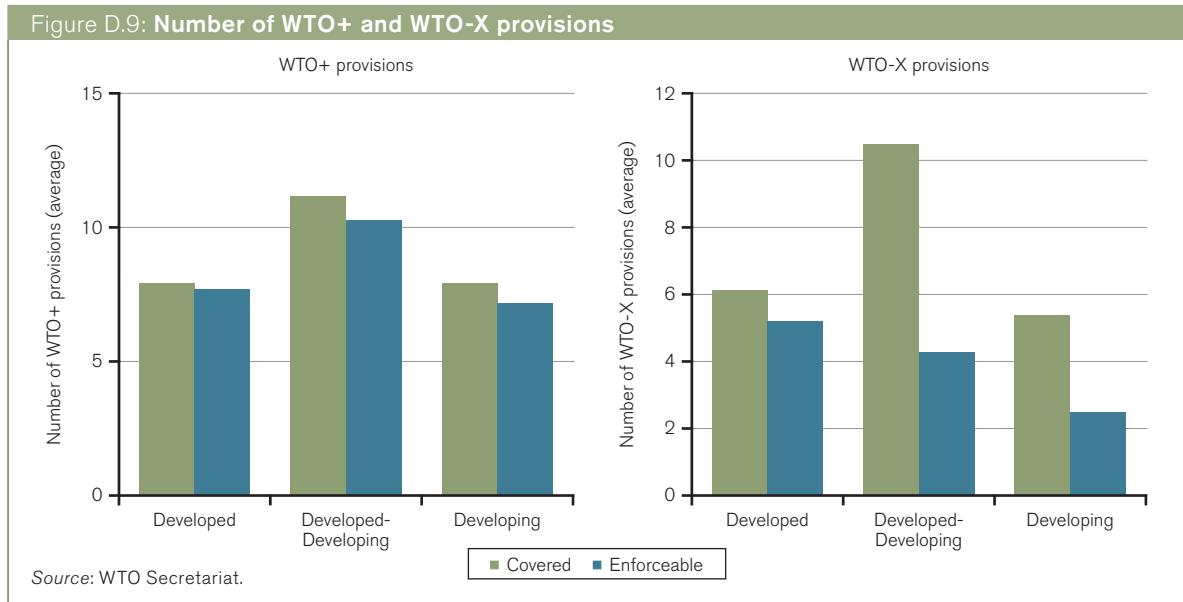


Source: WTO Secretariat.

To investigate possible differences among PTAs signed between categories of countries – that is, developed-developed, developed-developing and developing-developing – the average number of provisions in these PTA categories are compared (see Figure D.9). PTAs between developed and developing countries contain on average a higher number of legally enforceable WTO+ provisions compared with PTAs between trading partners with similar levels of income (i.e. among developed or among developing countries). How might this be explained? Barriers affecting goods and services are generally higher in

developing than in developed countries. Developed countries might use PTAs with developing countries to obtain deeper levels of commitments than those made in the WTO. In exchange, developing countries might acquire fuller and greater security of market access to the large economies of their PTA partners.

As shown in the second panel of Figure D.9, PTAs between developed and developing countries also cover a higher average number of WTO-X provisions than PTAs between two developed countries or between two developing countries. However, most of these provisions



are not legally enforceable. Agreements between developed countries on average have a higher number of enforceable provisions, with PTAs between developing countries having the smallest number of enforceable WTO-X provisions. The pattern between developed and developing countries observed in the portion of Figure D.9 dealing with WTO-X provisions is consistent with the argument made by HMS that developed countries are seeking to “export” their regulatory regimes to developing countries. The fact that most of these WTO-X provisions are not legally enforceable may suggest limited success in these efforts, or perhaps that the process of regulatory convergence in a legally binding sense is a gradual one.

It may at first appear surprising that agreements between developing countries include WTO-X policy areas. However, this pattern becomes more understandable given that many of these PTAs typically involve upper or middle-income developing countries such as Chile, the Republic of Korea and Singapore. They may have the same interest in exporting their regulatory regimes as developed countries.

Overall, this analysis leads to two main conclusions. First, where WTO+ provisions are encountered in PTAs, involving any combination of developed or developing countries, agreements have generally served to strengthen rules and commitment levels compared with the WTO agreements. The fact that these are policy areas already covered by the WTO has made it easier to give legal force to the relevant provisions. Secondly, in spite of the apparent explosion of new WTO-X issues covered by PTAs, the areas embodying legally enforceable and therefore substantive commitments in PTAs are relatively few, and are to be found predominantly in the fields of investment, competition policy, intellectual property rights, and the movement of capital.

- (b) PTA commitments in selected policy areas

(i) Services

Services obligations are usually included in comprehensive PTAs that cover not only trade in goods, but also, for example, investment, intellectual property, e-commerce and competition. Out of 85 notifications under Article V of the GATS,¹⁵ a little more than one-third of the agreements follow a structure that is close to that of the GATS, with a similar set of obligations (national treatment, domestic regulation, etc.) that apply to the four modes of supply,¹⁶ and rely on a GATS-type “positive-list modality” for the scheduling of liberalization commitments.¹⁷ A positive-list approach means that the obligations stipulated in the agreement apply only to those services sectors listed in WTO members’ schedules of commitments (and subject to limitations inscribed), while a negative-list approach means that obligations in the agreement apply fully to all sectors, subject only to explicitly listed reservations. In other words, in a positive list approach only what is listed is covered, whereas in a negative list approach everything is covered apart from what is listed.

Almost half of the services PTAs notified follow a different structure, which is closer to the approach used in the North American Free Trade Agreement (NAFTA) than to that of the GATS.¹⁸ Such agreements use a negative-list modality for the scheduling of commitments, and services trade is covered by different sets of obligations. These include a chapter on cross-border services trade focusing on mode 1 (cross-border supply), mode 2 (consumption abroad) and mode 4 (movement of natural persons), a chapter on investment covering all sectors, including services, and separate chapters on telecommunications, financial services and the temporary entry of business persons.¹⁹

Over time, a number of agreements have innovated in terms of their structure, combining elements of both the original NAFTA and GATS-type models.²⁰ A number of services PTAs, whether positive-list or negative-list, also include some additional sector-specific provisions, contained in annexes to relevant chapters. Examples of these are recognition for professional services in various PTAs, provisions specific to express delivery services in US agreements, and maritime services in the agreement between the EU and the Caribbean Forum (CARIFORUM).

Aside from innovations in architecture and market-opening modalities, most services PTAs tend to share a broad commonality, among themselves and with the GATS, in terms of a basic set of disciplines relating to trade in services. These include national treatment (the principle of giving others the same treatment as one's own nationals), market access, domestic regulation obligations, exceptions, definitions and scope. In the area of "rules", for which negotiations are provided for under the GATS, namely safeguards, subsidies and procurement, PTAs have tended not to go further. The same is true for most agreements in regard to domestic regulation and transparency issues. Important exceptions exist here, however, as some countries have gone beyond GATS provisions. These include a necessity test on domestic regulation in the Switzerland-Japan PTA, or additional services-specific provisions on transparency in US agreements.²¹

How much more market access than under the GATS?

In addition to architectural and rules-related differences in the services provisions in PTAs, a key issue is the extent of market-opening commitments – that is, the level of access guaranteed for foreign services and services suppliers (market access and national treatment obligations). Studies have found that, overall, services commitments in PTAs go beyond GATS commitments currently in force.²² Some studies also show that PTA commitments go further than GATS offers tabled so far in the Doha Development Agenda (DDA).²³ GATS+ commitments in PTAs take the form of both new bindings or commitments in services sectors uncommitted under the GATS and better bindings in sectors already committed under the GATS.

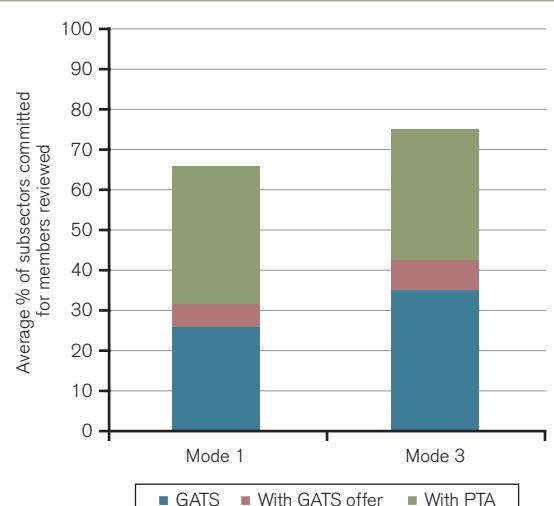
The value of services commitments in PTAs is largely based on the fact that they guarantee a minimum level of treatment – often a better one than that guaranteed under the GATS. This is important for mode 3 (foreign commercial presence), where the supply involves large investments abroad, and for mode 1 (cross-border supply), where the current lack of restrictions in various sectors may not last as technological advances lead to greater trade, and competitive pressures, via that mode.²⁴ It is also important for mode 4 (movement of natural persons), where measures affecting temporary entry can rapidly be reversed.

PTA commitments are not expected to lead to many occurrences of "real liberalization" – i.e. removal of applied restrictions. At the same time, although such information is not readily discernible from PTAs, evidence suggests that some PTAs have, in certain instances, directly led to the removal of certain applied restrictions, for example the phasing out of the monopoly in the insurance sector in Costa Rica and the opening of the insurance sector to foreign branches in Australia, the Dominican Republic or Chile.²⁵

Figure D.10²⁶ highlights differences between services commitments in the WTO and in PTAs by focusing on the proportion of services subsectors that are subject to market access/national treatment commitments. On the basis of data for a large number of PTAs, the figure shows that members involved in PTAs have, on average, undertaken commitments on a greater proportion of services subsectors than they have in the GATS, or even than they have so far proposed in their current GATS offers in the Doha Development Agenda (DDA). This trend is clear in both modes 1 and 3, representing more than 80 per cent of the value of world trade in services. Levels of sectoral coverage achieved in PTAs are, on average, similar for developing and developed countries included in the sample. The contrast with the GATS, however, is greater for developing countries, whose commitments tend to apply to a more limited set of services subsectors at the multilateral level.

Figure D.11 presents a more complete picture of GATS+ commitments in PTAs by showing the proportion of subsectors where commitments undertaken by WTO members in PTAs go beyond

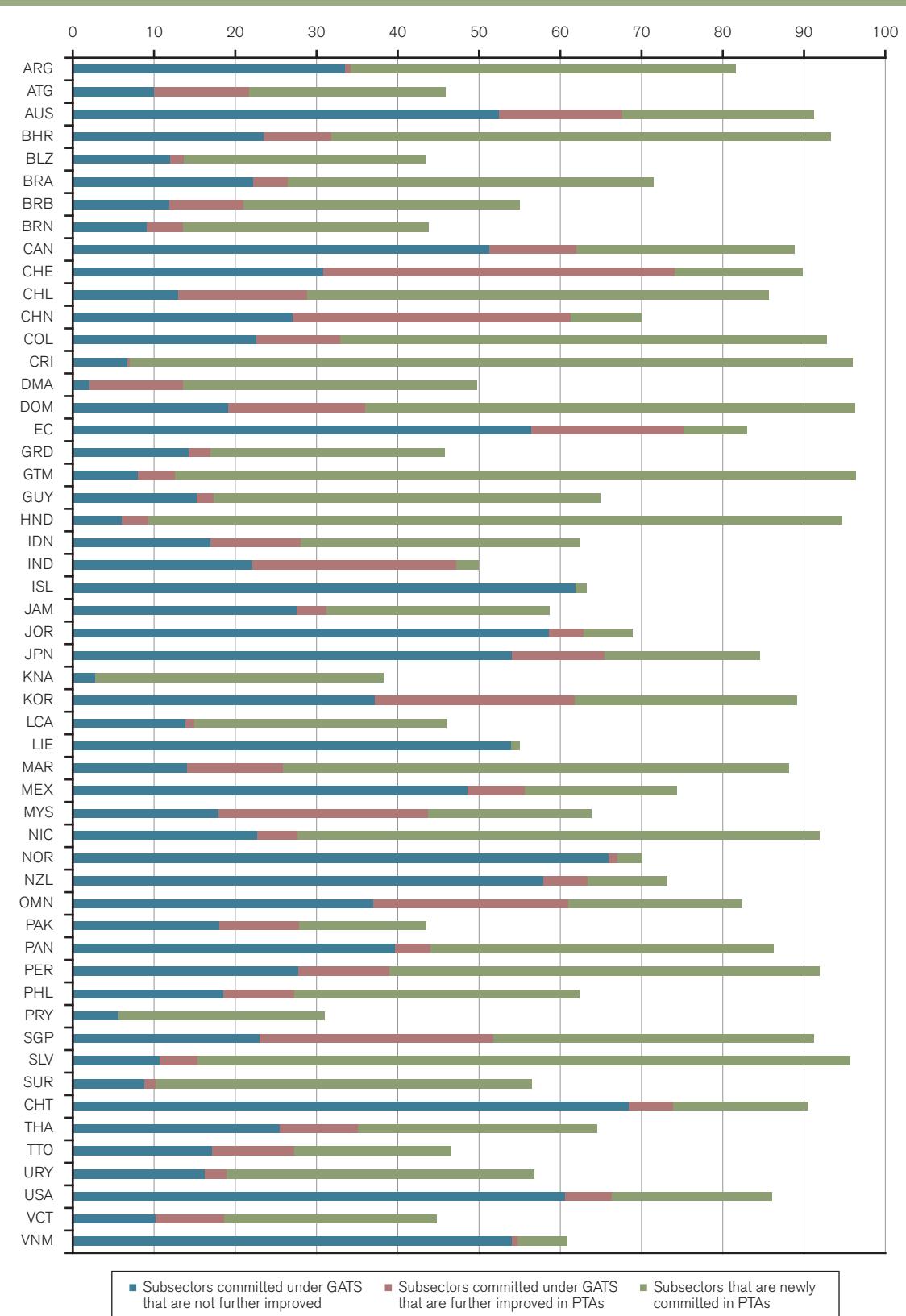
Figure D.10: Sector coverage in PTAs in comparison with GATS commitments and DDA offers (Percentage)



Note: See Appendix Table D.3 for the list of PTAs covered.

Source: Updated from Roy et al. (2008) on the basis of an expanded dataset.

Figure D.11: Proportion of services subsectors subject to new or improved commitments in PTAs, compared to GATS (by member) (Percentage)



Note: GATS stands here for GATS commitments and DDA offers. Blue: subsectors committed under GATS; red: subsectors committed under GATS but bound at a better level of treatment under PTAs; green: subsectors committed under PTAs that were uncommitted under GATS. Covers each member's "best" PTA commitment across all the PTAs it is party to. Covers modes 1 and 3. See Box A.1. The legend of the acronyms for the members is provided in Appendix Table D.2.

Source: Updated from Roy et al. (2007), on the basis of expanded dataset.

those in GATS schedules of commitments and offers. This captures not only those instances where PTAs include new bindings in subsectors that were uncommitted in the GATS, but also bindings at better levels of access in PTAs for those subsectors already subject to commitments under the GATS and DDA offers. The underlying PTA information represents the PTA in which the member concerned has undertaken the highest level of binding – it is not an average of bindings in all PTAs with services commitments. These data underscore the magnitude of GATS+ commitments in PTAs, both among developing and developed members.

The overall trend of significant GATS+ commitments observed in many PTAs also embodies large variations among parties. Some exhibit spectacular improvements over what is committed or offered under the WTO, particularly in the case of a number of developing countries in Latin America. Others, such as ASEAN countries (other than Singapore), show relatively more limited GATS+ commitments in PTAs. Moreover, a large number of those members that have made more significant GATS+ commitments have submitted relatively limited offers in the services negotiations in the DDA.

The level of services commitments of individual parties to PTAs also varies significantly among agreements. Singapore's services commitments, for example, vary notably in its agreements with the United States, Japan, and other ASEAN countries. Important variations can also be observed in the PTA commitments of Australia, Chile and the Republic of Korea. Commitments by the United States, in contrast, do not vary significantly among PTAs, except for its agreement with Jordan, which was based on the GATS (see Appendix Figure D.1).

No simple or single reason explains why PTA commitments are different among the PTAs signed by various countries, or why PTA commitments are generally more far-reaching than those offered in the GATS. It has been argued that factors such as reciprocity (within services, but also among other issues) as well as the respective economic size and importance of the parties involved have played a role.²⁷ For example, the United States always obtains better commitments overall on modes 1 and 3 from its trading partners than the commitments these countries undertake in PTAs with other countries. In Appendix Figure D.1, this is apparent in the PTA commitments of Chile, the Republic of Korea, Australia and Singapore.

The type of liberalization modalities used in the PTA is also a factor, as agreements using negative list²⁸ modalities have tended, on average, to result in greater commitments than positive list ones. This may, of course, be due to the fact that governments which are ready to assume more commitments are more comfortable with the negative list approach.²⁹ Although not investigated in

the context of services PTAs, the nature of political regimes may also play a role in influencing levels of GATS+ commitments that governments are ready to undertake in a preferential context.³⁰

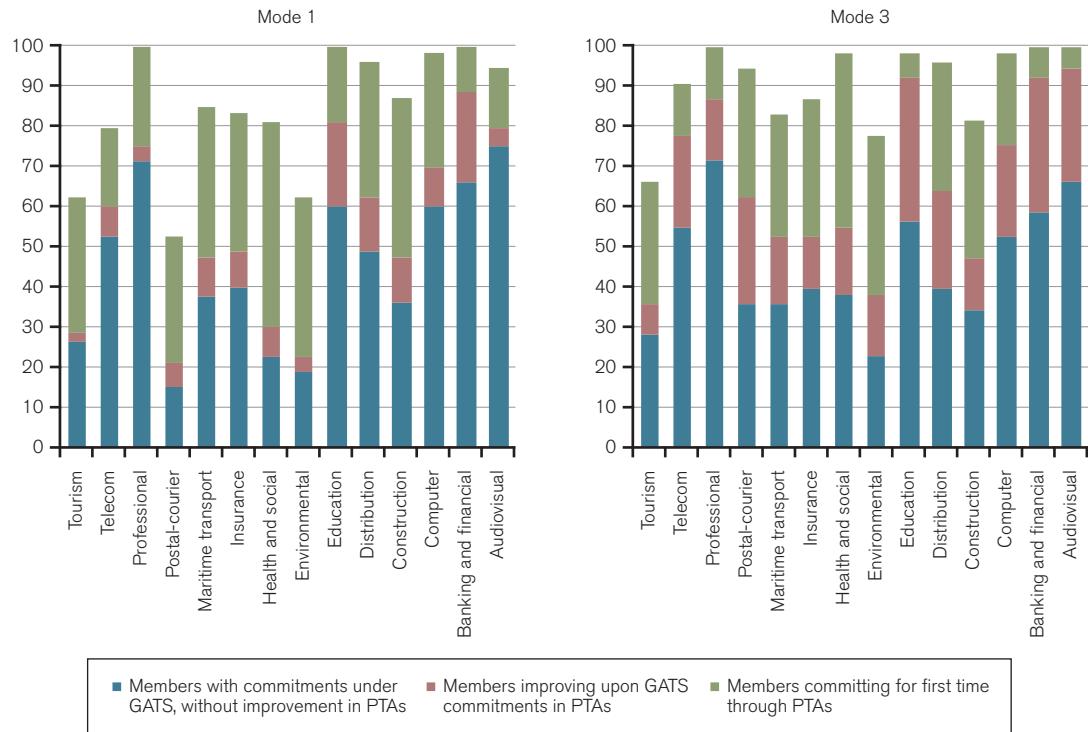
Figure D.12 shows GATS and PTA commitments by sector for modes 1 and 3. Overall, services commitments at the sectoral level in PTAs are more numerous than those in GATS sectors. Sectors that have proved more difficult at the multilateral level (e.g. audiovisual, education) have also attracted less GATS+ commitments than sectors such as telecommunications or financial services. However, PTA commitments for the former have still gone significantly beyond GATS commitments. Qualitative analysis of PTA commitments in a number of sectors also highlights this point.³¹ Nevertheless, the more sensitive sectors for larger trading partners have been subject to little or no improvement in PTAs (e.g. maritime transport for the United States or audiovisual services for the European Union).

As for differences according to the level of development among parties, the GATS+ commitments of developed economies tend to be more limited overall in PTAs in view of the higher levels of GATS commitments in these countries. For developed countries, GATS+ commitments largely take the form of better levels of bindings for sectors already covered under the GATS. The GATS+ commitments of developing countries are spread across all sectors, with particularly significant advances in such areas as business, environmental services, distribution, education and postal-courier services. Overall, PTAs have narrowed the gap in commitment levels between developed and developing countries.

GATS+ commitments are more significant in cross-border supply (mode 1) and commercial presence (mode 3) than they are in respect of the temporary movement of natural persons (mode 4). Mode 4 commitments are essentially defined in a cross-sectoral manner in both the GATS and PTAs. PTAs have on the whole made notable improvements over the GATS, although to a lesser extent in such important categories of natural persons as "independent professionals" and "contractual service suppliers".³²

The scale of GATS+ commitments varies significantly from one member to another. According to Stephenson and Delourme (2010), Australia, Canada, the European Union and Japan have undertaken some significant GATS+ commitments in some recent PTAs.³³ On the other hand, most United States PTAs on services, including all those notified to the WTO after 2003, do not go beyond GATS on mode 4. The same is true for a number of PTA commitments by developing countries. However, the broader sectoral coverage of most PTAs means that, at a minimum, GATS-type mode 4 commitments are extended to many previously uncommitted sectors.³⁴

Figure D.12: GATS+ commitments in PTAs by sector, modes 1 and 3 (Percentage)



Note: GATS stands here for GATS commitments and DDA offers. Done on the basis of each member's "best" PTA commitment across all the PTAs it is party to.

Source: Updated from Roy et al. (2007), on the basis of expanded dataset.

Bilateral investment treaties (BITs) also cover issues relevant to mode 3. Although the majority of BITs are limited to post-establishment investor rights, some also include commitments on investments in services sectors with respect to the establishment phase.³⁵ This is particularly the case with BITs concluded by the United States.

Finally, PTAs are sometimes GATS-minus, in that they contain commitments that provide for less than what is bound under the GATS, either by excluding sectors (e.g. financial services in certain PTAs) or by listing limitations not foreseen in GATS commitments.³⁶

(ii) Investment

The trade and investment literature – see, for example, Helpman (1984); Markusen (1984); Brainard (1993); Brainard (1997) and Markusen (1998) – allows us to infer what provisions in trade agreements, and in investment chapters in particular, will be needed to facilitate international production networks. A key insight of this literature is that what gives the multinational enterprise its competitive edge in international markets is its firm-specific assets – human capital (management or technical experts) and intellectual property, such as patents or blueprints. Hence provisions in PTAs that give

ample protection to these assets will encourage more FDI flows and production sharing. Examples of such provisions are protection against expropriation or a commitment to compensate investors in the case of expropriation.

Allowing freer movement of corporate personnel would be another critical ingredient in PTAs motivated by production sharing. Another provision that may improve investor confidence is having the right to invoke the PTA's dispute settlement mechanism. Finally, reducing barriers to investment will allow more enterprises the opportunity to establish a production facility in a foreign location.

What are investment provisions in PTAs commonly about?

Several studies have analysed investment provisions in PTAs – see, for example, Dee et al. (2006); Dee (2008); Houde et al. (2007); Kotschwar (2009) and Berger et al. (2010). For the purpose of this report, the Kotschwar study will be used. It is based on an examination of the investment chapters or provisions in 52 PTAs. The sample of PTAs includes 22 free trade agreements among countries of the Americas. Two agreements are from the 1980s, 13 from the 1990s, and 33 from

2000 onwards. Seventeen agreements in the sample pair countries of the Americas with others outside the region, including eight with Asian countries, six with countries in the Middle East and three with European partners. Eight agreements are between Asian countries, two agreements among European countries or groups (European transition agreements), and one each involving Europe-Africa, Europe-Asia, Europe-Middle East and Africa-Africa. More than 30 specific features of the investment chapters in these agreements were examined in Kotschwar's 2009 study.

One potential shortcoming of the approach taken here to examine investment provisions in PTAs is that these agreements are not the sole avenue for making international commitments in investments. Over the past 20 years, there has been an explosion of bilateral investment treaties (BITs). The United Nations Conference on Trade and Development (UNCTAD) estimates that the total number of BITs increased more than six-fold during the 1990s, with their number rising from 385 in 1989 to some 2,750 by the end of 2009.³⁷ One reason why investment and trade have been regulated by distinct treaties is because investment and trade disciplines focused on "different but complementary objectives" (DiMascio and Pauwelyn, 2008). Trade agreements seek to increase trading opportunities and investment agreements seek to protect and promote foreign investment.

Even though PTAs increasingly include investment rules, their numbers are still dwarfed by the BITs. For instance, UNCTAD's BITs database reports that 82 BITs were signed in 2009, which exceeds the number of PTAs containing investment provisions notified to the WTO that year.³⁸ BITs have clearly been an important vehicle for guaranteeing investor protection (Adlung and Molinuevo, 2008). Baldwin (2010) considers the explosion of BITs in the 1990s as an important means by which emerging markets were able to attract offshored manufacturing jobs and factories. Thus, it could be argued that BITs and investment chapters in PTAs play largely similar roles in the spread of international production networks.

Kotschwar's study identifies a number of key elements in the investment provisions of PTAs, including coverage, non-discrimination, standards of treatment, investor protection, temporary movement and nationality of senior personnel, and dispute settlement. Each of these is considered briefly below.

Coverage

The coverage of the investment chapter depends on how investment is defined and what disciplines are contained in the chapter. Investment may be defined in either a broad, asset-based way (including both FDI and portfolio investment) or more narrowly using an enterprise-based approach (comprising the establishment or acquisition of a business enterprise). Investment disciplines may be

divided between the investment and services chapters of an agreement. As a consequence, interactions between them are more prevalent, and are governed either in the investment or the services chapter (Houde et al., 2007). Alternatively, investment disciplines are contained in the investment chapter and there is limited interaction with the services chapter.³⁹

Principle of non-discrimination

A key mechanism for opening up investment opportunities in a PTA is the application of the principle of non-discrimination to foreign investors. The extent of opening depends upon how broadly investment is defined in the agreement (i.e. the range of assets to which non-discrimination applies), whether the principle is applied to the entire lifetime of the investment (pre- and post-establishment), and the number of reservations. There are two broad approaches for determining reservations: the negative list and positive list approach, as explained earlier. In general, a negative list approach is likely to yield greater investment opportunities.

Standard of treatment

Beyond non-discrimination, investment provisions also specify other standards of treatment of foreign investors. These include such standards as fair and equitable treatment under international law, and freedom in transferring payments abroad.

Investor protection

Most investment chapters contain provisions stipulating that investors are protected or will be compensated in the event that the host country nationalizes or expropriates an investment.

Senior management and personnel

Most PTAs provide for the temporary entry of managers and key personnel of a foreign investor. Some agreements allow hiring of top managerial personnel regardless of nationality, while other agreements hold that the foreign investor may not stipulate the nationality of a majority of the board of directors.

Dispute settlement

While many investment chapters in PTAs now contain provisions on dispute settlement, disputes are handled in a variety of ways. Some PTAs provide for the settlement of disputes through coordination and negotiation; others contain provision only for state-to-state settlement of disputes. However, some PTAs, such as NAFTA, now allow investor-state dispute settlement. An investor that is a national of a PTA member may submit to international arbitration a claim that a PTA member (state) has breached obligations under the investment provisions of the PTA.

Kotschwar's sample of PTAs is used to provide a more detailed analysis of those elements of the agreements that might be seen as essential for production networks. Figure D.13 shows that a large proportion of the sample of the PTAs (between 60 and 70 per cent) have adopted a negative list approach to investment commitments. MFN and national treatment have also been widely guaranteed to foreign investors who wish to establish a presence, or acquire or resell holdings. Investor protection guarantees are written into most agreements, and private investors are frequently granted the right to dispute settlement. In general, the investment provisions in these PTAs appear to be rather open, although no attempt was made in the Kotschwar study to test how much these provisions actually affected FDI flows. Some econometric evidence is available, however, showing that FDI flows respond to provisions in the investment chapters of PTAs. See Dee et al. (2006), Dee (2008) and Berger et al. (2010).

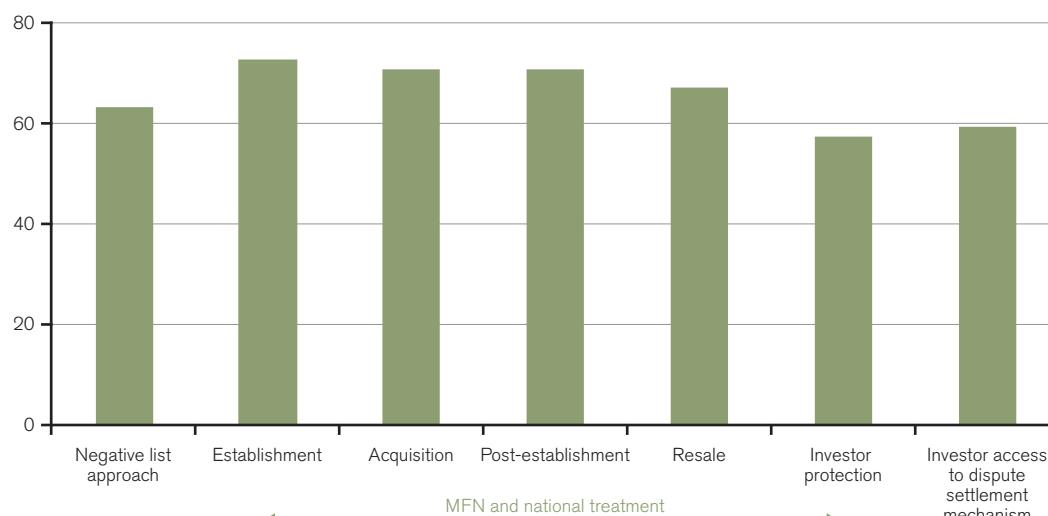
Patterns over time

The agreements in Kotschwar's sample span from the early 1980s to around 2009. Using the total number of provisions in the investment chapter as an indicator of investment openness, later agreements appear to be more open than earlier ones (see Figure D.14).⁴⁰ This trend is the same even if a narrower set of provisions in the investment chapter are used, such as only those limited to MFN and national treatment.

Are there families of investment provisions?

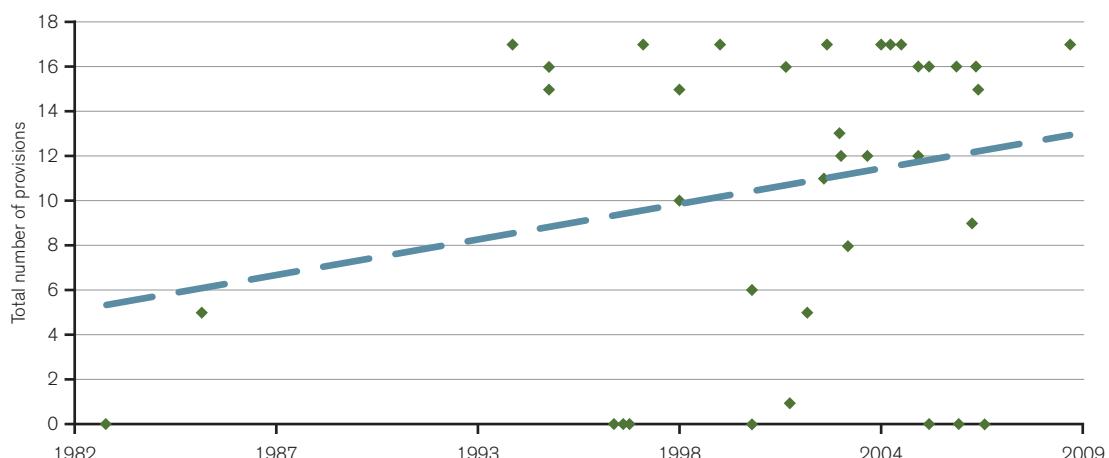
Kotschwar finds that PTAs are grouped roughly around two hubs: a NAFTA-type hub, which includes agreements among countries in the Americas and increasingly in the Asia-Pacific region, and the European-style hub. She characterizes all the PTAs in

Figure D.13: Proportion of PTAs with selected provisions in investment chapter (Percentage)



Source: Calculated from Kotschwar (2009).

Figure D.14: Total number of provisions in investment chapter over time



Source: Calculated from Kotschwar (2009).

the sample involving the three NAFTA members (Canada, Mexico and the United States) with their respective partners in the Americas as “encompassing”, since they apply the four modalities that determine investment conditions: establishment, acquisition, post-establishment operations and resale. They also cover such disciplines as MFN treatment, national treatment, and dispute settlement. Eighty per cent or more also cover transparency, protection against denial of benefits and restriction of transfers, minimum limitations on the nationality of management and the board of directors, no performance requirements and guarantees against expropriation.

The United States leads the way in designing particularly comprehensive PTAs. In Asia, Kotschwar finds that Singapore and Australia's agreements are more comprehensive, but other agreements have scant coverage. In interregional agreements, she finds that the coverage is somewhat lower due to the limited coverage of disciplines in the EU-Mexico and EU-Chile agreements, as well as in the Chile-China Free Trade Agreement (FTA), the P-4 Agreement (Australia, Brunei Darussalam, Chile and Singapore), and the US-Jordan FTA.

Kotschwar observes that the agreements signed among developed economies tend to go beyond provisions at the multilateral level. This is most obvious where they include separate investment chapters that go beyond services, cover all investment phases, employ a negative list approach, and have little or no limitations on the nationality of board members and management. A geographic divide exists with respect to limitations on performance requirements. United States agreements (except for US-Israel) restrict performance requirements. Singapore agreements (except for US-Singapore and Japan-Singapore) do not.

A similar division is seen in terms of transparency requirements. Agreements in the Americas tend to add prior comment and publication obligations to the GATS, and establish national enquiry points. Asian agreements, by and large, do not. Australian agreements (with the United States and with Singapore) incorporate GATS-style denial of benefits. Among agreements that include Asian members, only a handful adopt tougher-than-GATS treatment. All of these are with countries in the Americas (Chile-Korea, Mexico-Japan, US-Korea and US-Singapore). Agreements with Australia or Israel do not contain investor-state dispute settlement mechanisms except for the Singapore-Australia agreement – all Singapore agreements incorporate this element.

As for agreements between developed and developing countries, those in the Americas all contain a separate investment chapter or incorporate a BIT. EU agreements with developing countries generally do not. PTAs among developing countries vary considerably in content and approach. Agreements

signed by Chile and Mexico with other developing countries look much more like the agreements involving developed countries than those signed among other developing countries, such as MERCOSUR. These latter agreements tend to open markets more gradually.

(iii) Technical barriers to trade

In a world where tariff barriers have progressively fallen, non-tariff barriers to trade have acquired more significance. As noted above, many PTAs include norms on technical barriers to trade (TBT) and a growing number include TBT provisions.

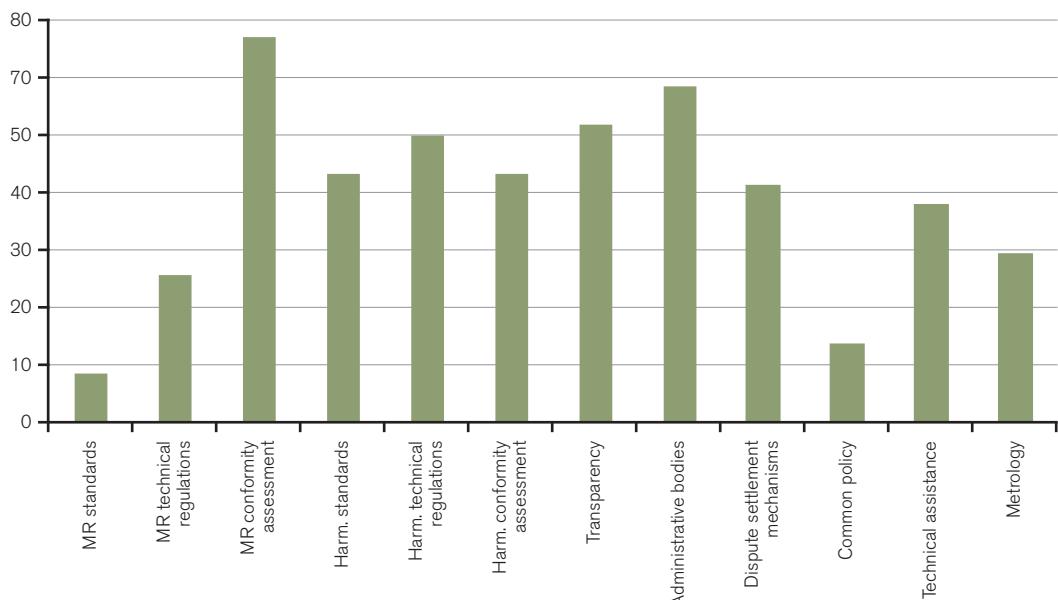
Data reported here on TBT provisions in PTAs are taken from a study by Piermartini and Budetta (2009) of 70 PTAs that differ in terms of geographical characteristics, level of development and the extent of intra-regional trade. Fifty-eight of the 70 PTAs surveyed contained TBT provisions. The study employs a template that maps TBT provisions in terms of the integration approach chosen for standards, technical regulations and conformity assessment procedures (i.e. harmonization or mutual recognition), improvements in transparency, institutions or mechanisms to administer the agreement and solve disputes, and the possibility of cooperation among regional partners on standards-related issues beyond trade objectives and technical assistance. Since this database primarily⁴¹ relies on the legal texts of the agreements, it does not allow an assessment of the actual extent of implementation of the provisions.

What are TBT provisions in PTAs commonly about?

The most common provisions in PTAs (occurring in over 50 per cent of the 58 PTAs included in the Piermartini and Budetta study that contain TBT provisions) are mutual recognition of conformity assessment, harmonization of technical regulations, transparency provisions, and provisions that establish institutional machinery such as a committee, a body or a network for standard-related matters (see Figure D.15). Harmonized standards, harmonized conformity assessment procedures and dispute settlement provisions were found in more than 40 per cent of the agreements contained in the sample of 58 PTAs. Provisions dealing with the mutual recognition of regulations and standards, common policies, technical assistance and metrology occurred in less than 30 to 40 per cent of the agreements.

Mutual recognition means that countries agree to recognize each other's regulations, standards or conformity assessment procedures as equivalent, thus facilitating the unimpeded flow of goods into partner markets. Like mutual recognition, harmonization of regulations and standards is a step towards more open trade. Both mutual recognition and harmonization

Figure D.15: Percentage of PTAs by TBT provision



Note: Percentages are relative to the 58 PTAs in the sample containing TBT provisions. MR denotes mutual recognition and Harm. means harmonization.

Source: Authors' calculations on Piermartini and Budetta (2009) database.

promote transparency and trade opening by reducing the costs to exporters of monitoring destination country policy changes. These arrangements also provide exporters with easier access to information about the preferences of consumers in partner countries.⁴²

The advantage of harmonization relative to mutual recognition in terms of its effects on trade is that with harmonization products produced in different countries are more similar (more homogeneous) and therefore better substitutes from the point of view of producers and consumers. This, in turn, may facilitate trade by improving consumer confidence about the quality of imported goods. In enhancing compatibility between imported and domestically produced goods, harmonization makes it easier for consumers to match products. It is also likely to increase competition, reduce prices and increase trade. However, harmonization involves more arduous negotiations and carries higher regulatory costs than mutual recognition.

Finally, strengthening cooperation on the institutional set-up for the standards regime is a step towards further trade opening because it is likely to promote the effective implementation of measures. In general, the gap between law and practice will depend on institutions and administrative procedures.

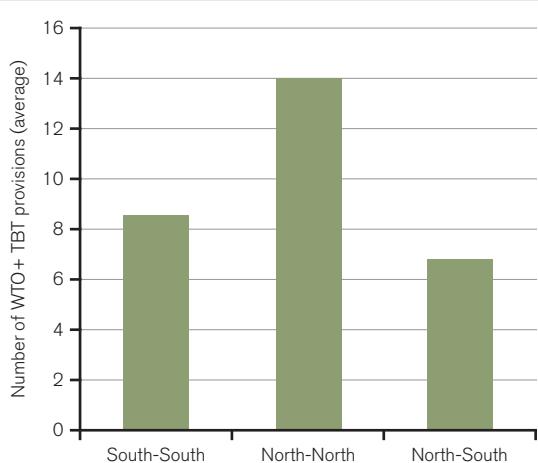
Who integrates TBT provisions the most?

Agreements signed between countries similar in terms of levels of development, technology, environmental requirements and preferences are likely to be deeper in terms of TBT integration than those between more dissimilar countries. This is because countries that are

alike tend to share similar policy objectives and therefore similar types of standards. In addition, countries at a higher level of development are more likely to trust one another's conformity assessments and standards than countries at a lower level of development.

In order to understand the overall level of TBT integration, PTAs have been ranked on the basis of provisions that go beyond WTO commitments (i.e. WTO+ integration). Figure D.16 shows the average

Figure D.16: Average degree of TBT integration by level of development



Note: The "North" consists of the EU, EFTA countries, Australia, New Zealand, the United States, Canada and Japan. Agreements with no TBT provisions are included.

Source: Authors' calculations based on Piermartini and Budetta (2009) database.

level of WTO+ integration achieved by PTAs classified according to the level of development and similarity of their member countries. In line with the prediction that a deeper level of integration is likely to be achieved in PTAs among countries with a similar level of development and higher incomes, agreements between developed countries (the North) display the highest degree of TBT integration on average. PTAs between developing countries (the South) score more highly than agreements between a developed and a developing country, confirming the proposition that integration is more likely among similar countries.

Are there families of PTAs in the context of TBT integration?

Table D.3 shows patterns of TBT integration by region. The most common provisions (defined as those that occurred in over 60 per cent of the cases) are shaded in green, the least common (those occurring in less than 40 per cent of cases) are shaded in blue, and the rest (occurring between 40 and 60 per cent of cases) are shaded in red. While mutual recognition of conformity assessment is common across the board, significant differences are discernible in relation to other measures adopted in PTAs.

A major difference exists between EU-type and North American-type agreements in terms of the choice between harmonization and mutual recognition as a vehicle for TBT integration. PTAs involving the EU typically prefer harmonization, while North American agreements tend to prefer mutual recognition. In addition, TBT provisions in PTAs in North America, East Asia and South-Central America mainly focus on introducing transparency requirements and developing institutional bodies, while EU and African agreements barely consider these issues.

PTAs that harmonize standards are likely to feature hub-and-spoke characteristics, with a larger partner representing the hub to whose standards the spokes will conform. This tendency can result in standards becoming a barrier to trade and integration among major regional groupings.⁴³

(iv) Competition policy

The presence of monopolies, cartels and other forms of private anti-competitive practices can frustrate the benefits of trade, investment and services reform. These market features prevent multinational enterprises from taking full advantage of differences in costs among countries through fragmenting production. The adoption of competition policy is in many ways a natural complement to the reduction of trade, investment and services barriers. While the latter reduce or eliminate policy-created distortions, competition policy dilutes or prevents the abuse of market power. As noted by many commentators, the stillborn 1948 Havana Charter of the International Trade Organization included provisions on restrictive business practices, testifying to the recognition by negotiators of the link between trade opening and competition law.

The following analysis of competition rules in PTAs is based on recent research by Silva (2004); Brusik et al. (2005); Anderson and Evenett (2006); Solano and Sennekamp (2006); Teh (2009) and Dawar and Holmes (2010). Many studies of competition rules in PTAs have focused only on the competition policy chapters of agreements. However, as Anderson and Evenett (2006) have emphasized, competition-related provisions also appear in other provisions. In their view, these sector-specific competition provisions may have stronger pro-competitive effects than the competition

Table D.3: Patterns of TBT integration across regions (percentage of PTAs by provision and region)

| Provisions | EU | North America | East Asia | South Central America | Africa |
|-----------------------------|----|---------------|-----------|-----------------------|--------|
| MR standards | 13 | 7 | 8 | 6 | 0 |
| MR technical regulations | 13 | 40 | 31 | 41 | 0 |
| MR conformity assessment | 67 | 73 | 69 | 76 | 70 |
| Harm. standards | 80 | 20 | 31 | 47 | 60 |
| Harm. technical regulations | 73 | 27 | 54 | 59 | 50 |
| Harm. conformity assessment | 80 | 20 | 31 | 47 | 60 |
| Transparency requirements | 20 | 67 | 62 | 65 | 20 |
| Administrative body | 20 | 67 | 62 | 76 | 40 |
| Dispute settlement body | 20 | 33 | 46 | 47 | 20 |
| Common policy | 7 | 0 | 15 | 6 | 20 |
| Technical assistance | 40 | 40 | 23 | 65 | 40 |
| Metrology | 47 | 13 | 8 | 47 | 60 |

Note: MR refers to mutual recognition and Harm. to harmonization.

Source: Calculations on Piermartini and Budetta (2009) database.

policy chapter itself, assuming that the trade agreement even has one. The authors also draw attention to what they refer to as "horizontal principles" relating to the non-discrimination, procedural fairness and transparency provisions in the agreements.

Transparency requires the publication of laws promoting fair competition and addressing anti-competitive practices. Procedural fairness requires that administrative proceedings are consistent, impartial and reasonable and that it is possible to review or appeal any decisions taken in administrative proceedings. Anderson and Evenett (2006) argue that these horizontal principles have a bearing on competition law and policy.

Confirming the hypothesis of Anderson and Evenett, the study by Teh (2009) documents how a large number of PTAs include competition disciplines in the chapters on investment, services (in telecommunications, maritime transport and financial services), government procurement and intellectual property. Based on his sample of 74 PTAs, Figure D.17 shows the proportion of PTAs which contain competition-related elements in the other chapters of the agreements. More than a quarter of the PTAs, for example, have provisions that guard against major telecommunications suppliers engaging in anti-competitive practices. About one-fifth of the PTAs have an intellectual property (IP) chapter preventing abuse or anti-competitive behaviour by IP rights holders.

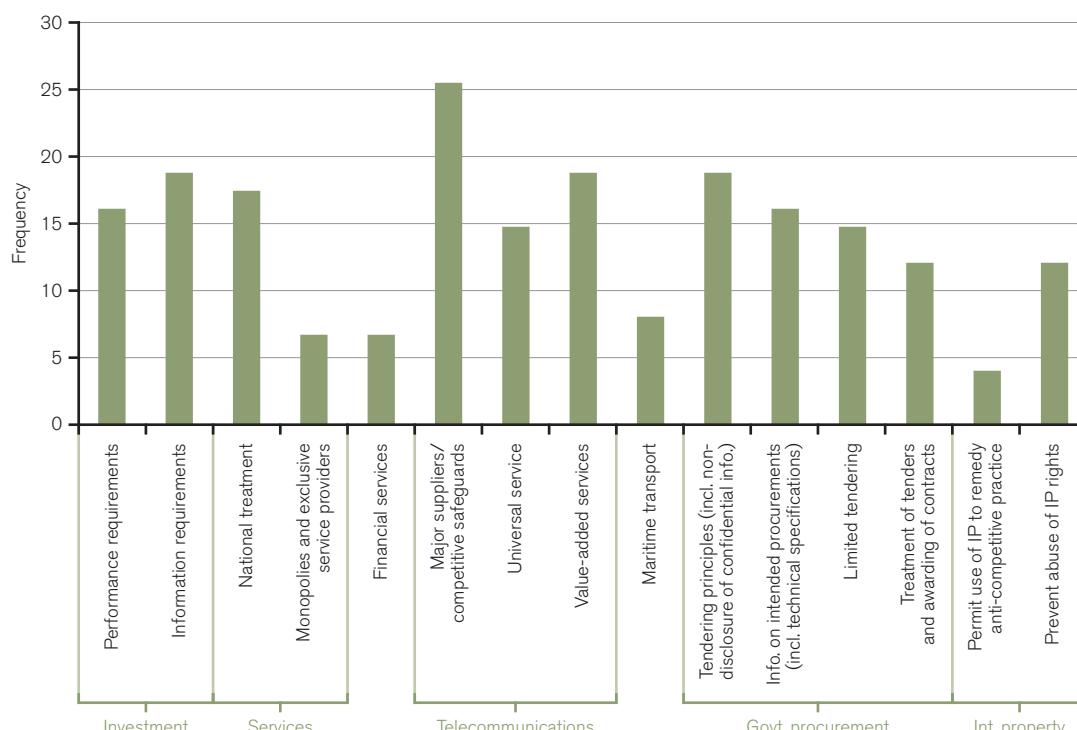
As has been argued in this report, infrastructural services, investments, and intellectual property protection are likely to be central ingredients of well-functioning production networking arrangements. The application of competition rules in these areas complements the reduction of trade and other regulatory barriers.

The main obligations found in the competition policy chapters of PTAs are the adoption or application of competition law and closer cooperation among competition authorities of PTA partners. Several types of behaviour are considered anti-competitive or as having the potential to affect competition adversely, and are explicitly mentioned in the agreements. These include concerted actions, abuse of a dominant position and state aid. Monopolies, state enterprises and undertakings with special or exclusive rights are also given particular attention.

Competition policy chapters typically mandate closer cooperation among national competition authorities, although for the most part the scope of cooperation is limited to the exchange of information, notification and consultation. A small number of PTAs, however, give a substantial role to regional bodies in carrying out surveillance and investigations, and in taking measures to curb anti-competitive behaviour.

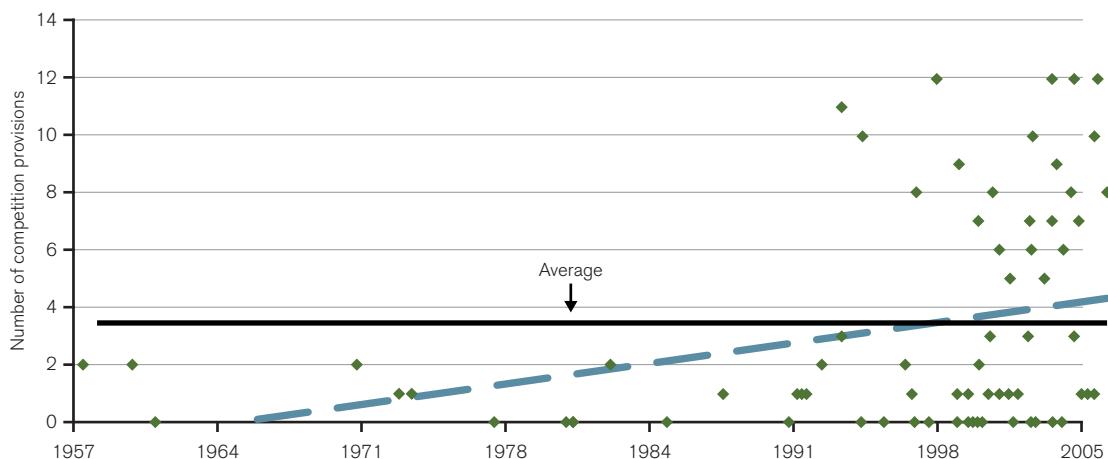
One complication in assessing the policy effects of competition policy chapters, as distinguished from the sector-specific competition provisions and horizontal

Figure D.17: Sector-specific competition provisions in PTAs



Source: Teh (2009).

Figure D.18: Competition disciplines in PTAs over time



Source: Teh (2009).

principles, is that a sizeable number of PTAs exclude them wholly or in part from dispute settlement provisions in the agreement. Out of the 55 PTAs with competition policy provisions in the sample of 74 PTAs in Teh (2009), 14 exclude all of these provisions from dispute settlement, while another two exclude parts of the competition provisions. These carve-outs suggest that competition policy chapters are for the most part intended to operate on a “best endeavour” basis only.⁴⁴ They also underscore the importance of the horizontal principles and sector-specific competition provisions outside the competition policy chapters of the relevant PTAs.

Pattern over time

Figure D.18 shows that the commitment to promote competition through PTAs has increased over time. The focus of this analysis is limited to sector-specific and horizontal competition provisions, given that a sizeable number of PTAs exclude, completely or in part, the competition policy provisions from dispute settlement. The vertical axis in Figure D.18 measures the frequency of the sector-specific and horizontal provisions of each PTA in the sample while the horizontal axis shows the date on which the PTA entered into force. The increased commitment to promote competition is shown by the ascending blue line for the entire sample of 74 PTAs which came into force from 1958 to 2006.

Are there families of PTAs in the context of competition policy?

The question whether distinct kinds of competition provisions are found in agreements involving particular countries is relevant in light of the claim by Horn et al. (2010) that certain PTA hubs tend to export their regulatory regimes to PTA partners. Solano and Sennekamp (2006) argue that distinct patterns can be detected in the competition policy provisions in EU- and NAFTA-style agreements. Since that study

focused only on the competition policy chapters of the agreements, the question arises whether the finding holds if a broader view is taken of competition provisions in PTAs.

The analysis undertaken in this report suggests that the Solano and Sennekamp finding is robust, even if we include the sector-specific and horizontal provisions. Four salient differences are identifiable in the treatment of competition policy in PTAs involving the EU and the United States. First, horizontal principles are more pronounced in US-centred PTAs. Secondly, competition disciplines are fairly prominent in the sectoral chapters of US PTAs, particularly in telecommunications, government procurement and investment. Thirdly, compared with the EU agreements, there is less likelihood of finding a specific competition policy chapter in North American PTAs. Nearly all of the PTAs concluded by the EU contain competition policy chapters. Finally, US-centred PTAs exclude competition policy chapters from dispute settlement.

It is difficult to ascertain the practical relevance of these differences. In the analysis of TBT provisions in PTAs, one explanation for the observed existence of families of PTAs was that the hub in hub-and-spoke PTAs was exporting its regulatory regime to the spokes. Thus one interpretation is that the two trading powers are interested in exporting different aspects of their competition regulations to their PTA partners.

Are competition rules preferential?

Unlike traditional market access provisions, many elements of competition rules in PTAs are characterized by non-discrimination, see for example, Teh (2009) and Dawar and Holmes (2010). Competition disciplines usually operate through the use of domestic regulations.⁴⁵ While it is not impossible for these regulations to be tailored to favour enterprises originating from PTA partners, it

may be costly to do so and becomes even more difficult as the number of PTAs to which a country is a signatory increases. Transparency, and in particular the obligation to publish laws promoting competition, provides information that is available to PTA and non-PTA members alike.

Competition policy chapters typically mandate the application of competition law and the establishment of a competition authority. To the extent that enforcement of competition law in a country reduces the market power of domestic incumbents, all foreign enterprises that operate in the market stand to benefit, regardless of whether or not they are from a PTA member. Competition policy obligations also provide opportunities for new foreign entrants (either from PTA or non-PTA members) to challenge domestic incumbents.

Finally, positive benefits (spillovers) may arise from competition provisions, particularly if they are contained in regional rather than bilateral agreements (Dawar and Holmes, 2010). Economies of scale can be realized from the creation of a regional competition authority. Even if no centralized authority is established, beneficial spillovers can result from information sharing and cooperation among enforcement authorities. There can also be demonstration effects in other jurisdictions, when a competition authority in one PTA member takes action against another for anti-competitive behaviour. Eventually, more common competition norms and practices within a PTA will prevent regulatory arbitrage, where enterprises locate in a jurisdiction in the PTA with relatively lax competition policy.

3. Production networks and deep PTAs

In this section of the report, we turn to the role of international production networks in encouraging the establishment of “deep” PTAs that go beyond reducing tariffs. The econometric results show that greater trade in parts and components is associated with the greater depth of newly signed agreements among PTA members. In addition, the analysis shows that the greater the depth of an agreement, the bigger the increase in trade among PTA members. To complement this analysis, we examine two case studies from different regions of the world: ASEAN (Association of Southeast Asian Nations) and Costa Rica. These provide useful insights into the link between production networks and the process of creating a PTA.⁴⁶ The intention is to document the growth of trade in parts and components as well inflows of foreign direct investment during the period leading up to the conclusion of the trade agreement.

(a) Deep integration and production networks: an empirical analysis

The theoretical literature on PTAs reviewed in Section C.2 suggests that the relationship between deep integration and trade goes in both directions. On the one hand, PTAs may stimulate the creation of production networks by facilitating trade among potential members of a supply chain. On the other hand, countries already involved in the international fragmentation of production are willing to sign preferential trade agreements with their partners in order to secure their trading relationships as providers of intermediate goods and services. Moreover, when production networks take place among countries with significant gaps (or differences) in business laws and regulations, deep PTAs are a vehicle for narrowing such gaps and further developing production sharing activity. In this section we will empirically test both directions of causality.

The impact of PTAs on trade has been widely studied.⁴⁷ The main conclusion of these studies is that PTAs boost trade among members. The literature on the effects of deep integration, however, is limited. One of the main reasons for this is that difficulties arise in defining and measuring the depth of agreements (see Section C.2). In this section, an attempt will be made to investigate the effects of deep integration on trade with a focus on production networks for the sub-set of agreements analysed in Section D.2.⁴⁸

The depth of an agreement will be defined in terms of coverage and will be captured by two sets of indices. The first group of indices is constructed on the basis of the number of legally enforceable WTO+ and WTO-X provisions included in each agreement. The higher the number of enforceable provisions covered by an agreement, the deeper the agreement. A limitation of these indices is that they give the same weight to each of the areas covered in a PTA, thereby assuming that the potential impact of each provision on production networks is of the same magnitude.

To deal with this problem, another method – known as a principal factors component methodology⁴⁹ – will also be used to generate an index capturing the depth of an agreement. This methodology is not theoretically founded but it can be used as a starting point for further research on how to quantify deep integration.

Two alternative indices capturing the depth of an agreement in areas such as competition policy and TBTs are also considered. These indices are also computed in terms of the coverage of provisions, with a higher index score representing increased depth in the relevant area.⁵⁰ These particular provisions are chosen for two reasons. First, an existing literature⁵¹ has attempted in-depth analysis and a mapping of the provisions. Secondly, as discussed in Section D.2, areas such as

competition policy and TBT are important in terms of production sharing. The integration of TBT measures makes international fragmentation of production easier by lowering the cost of testing and product certification. Competition policy allows multinational enterprises to take full advantage of cost differences among countries when production is fragmented.

An augmented gravity equation⁵² is estimated for 200 countries, using data from 1980 to 2007, in order to investigate the effect of deep integration on production networks. This methodology has been extensively used by economists to test empirically the determinants of trade flows, and in particular to estimate the effect of preferential trade opening on trade flows. Estimating the effects of PTAs on bilateral trade in parts and components using a gravity equation is, however, susceptible to an endogeneity problem.⁵³ In order to take account of this, the approach used by Baier and Bergstrand (2007) is followed.⁵⁴

Lack of data poses some difficulties in assessing the international fragmentation of production. This is why the empirical literature often draws on proxy measures for production networks. Different approaches have been used to quantify the magnitude and pattern of manufacturing trade directly attributable to production networks.⁵⁵ We follow Yeats (1998) and Hummels et al. (2001) and use trade in parts and components to proxy for global production sharing.⁵⁶

Preliminary results show that, as expected, signing a PTA increases production sharing among countries. More specifically, preferential trade agreements increase trade in parts and components by 35 per cent among country members (see column (1) of Appendix Table D.4). In addition, countries that sign deep agreements trade more than countries that sign shallow agreements. In other words, having an additional provision in an agreement will increase trade by almost 2 percentage points on average (see columns (2) (3) and (4) of Appendix Table D.4). Interpreting the magnitude of deep integration when it is measured using principal component analysis is less intuitive, since it is not easy to understand the meaning of a one-unit increase in such an index. However, results show that on average, signing deep agreements increases trade in production networks between member countries by almost 8 percentage points (see column 5 of Appendix Table D.4).

Preliminary evidence also shows that deeper agreements in areas such as TBT measures and competition policy have a positive and significant impact on production networks (see the last two columns of Appendix Table D.4). Including an additional provision in competition policy or TBTs will increase trade by one and three percentage points respectively. Results confirm that TBT integration involving mutual recognition, harmonization of standards and transparency decreases the costs of fragmentation of production. The adoption of competition law and

higher levels of cooperation among country members of a PTA also make production sharing more profitable for firms in the countries concerned.

Since the TBT integration and competition policy indices are based on different samples of countries, it is not possible to compare the magnitude of these coefficients in order to determine which policy area is the most important in relation to production networks.

So far, we have considered whether deep agreements increase trade in parts and components. The second question noted at the start of this subsection was whether higher levels of trade in parts and components increase the likelihood of signing deeper agreements. In order to answer this, we follow the literature on the determinants of preferential trade agreements⁵⁷ and estimate an equation in which the depth of an agreement is now the dependent variable to be explained and the share of trade in parts and components in total trade is included as an explanatory variable.⁵⁸

Results (see Appendix Table D.5) show that higher levels of trade in parts and components relative to total trade have a positive impact on the depth of an agreement. This effect is still significant after taking account of other PTA determinants, such as the economic similarity between countries and their differences in relative factor endowments.

(b) ASEAN: from regionalization to regionalism

In Section B of this report, reference was made to the large increase and regional concentration of trade in parts and components in East Asia in recent years. This pattern is consistent with the findings of Ando and Kimura (2005) and Kimura et al. (2007) for a broader class of products which they termed "machinery industries".⁵⁹ The authors link the large share of these products in the trade of East Asian countries to the rise of international production networks in the region.

International production networks are not, of course, unique to East Asia. It is possible to identify such networks in North America (involving American firms and Mexican *maquiladoras*) and in Europe (featuring, for example, German car companies and Hungarian and Czech affiliates). However, there are at least three factors that make the East Asian networks distinctive (Ando and Kimura, 2005). First, countries' manufacturing activities and international trade are more intertwined. Secondly, the networks involve a large number of countries at different levels of income. Thirdly, the networks include both intra-firm and arm's length relationships.

ASEAN was established in 1967 largely to deal with rising territorial tensions among some of its members (the original signatories were Indonesia, Malaysia, Philippines, Singapore and Thailand), and with possible spillovers from the conflict in Indochina. As a result, economic

cooperation did not appear to be a priority until 1977, when a partial-scope PTA was established. However, the scheme only had a limited impact because of long exclusion lists and low preference margins (Cuyvers and Pupphavesa, 1996). It was not until 1992 that formal economic cooperation took a significant step forward when the members decided to create a free trade area. The initial goal was to reduce tariffs between member countries to a range of 0 to 5 per cent within 15 years, but that horizon was subsequently shortened to ten years.

In the quarter of a century that spanned the creation of the association and the decision formally to establish a free trade area, a shift occurred in economic policy from traditional import substitution to export promotion and openness to FDI. Total merchandise exports of the five original members expanded from US\$ 8.9 billion in 1967 to US\$ 357 billion in 1992 (see Table D.4). In particular, exports of parts and components became increasingly important, rising from about 2 per cent of total exports in the year of the Association's founding to 17 per cent by the time the free trade agreement was signed.

Equally telling was the increased prominence of parts and components in intra-regional trade. In 1967, parts and components made up less than 2 per cent of intra-regional trade and by 1992 accounted for nearly 18 per cent of such trade (see Figure D.19).

In their description of East Asian production networks, Ando and Kimura argued that Japanese firms had a large role in the development of these networks. They note that by 2000 as many as 80 per cent of the Japanese firms going abroad had at least one affiliate in East Asia, and 54 per cent of the foreign affiliates of Japanese firms were located in East Asia (Ando and Kimura, 2005).

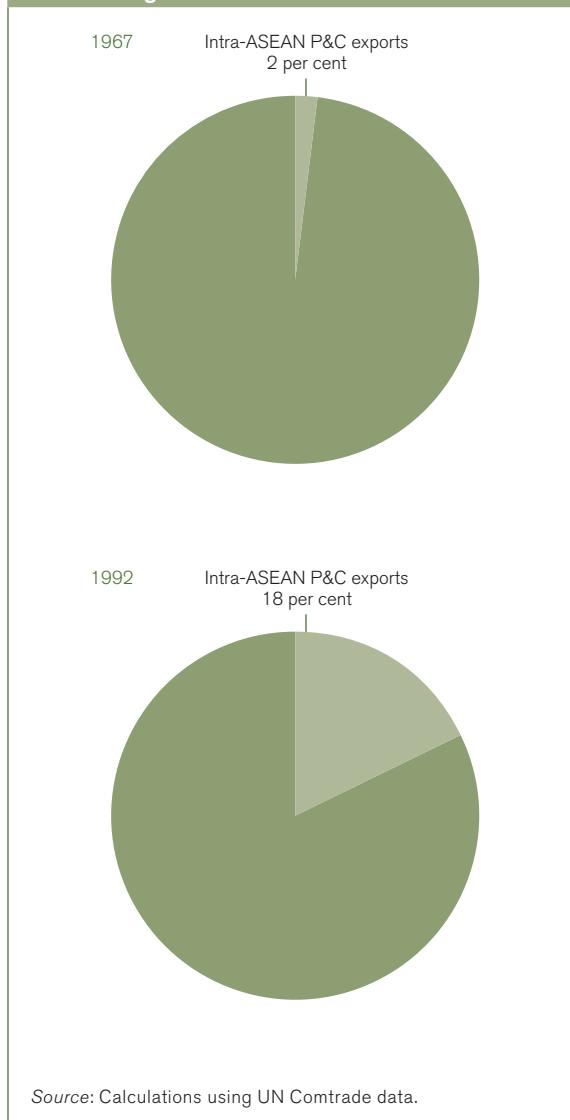
Complementary data from the Japanese External Trade Organization (JETRO) show the large flow of Japanese FDI to the original five ASEAN members. Between 1967 and 1992, Japanese FDI to these five countries averaged about 15 per cent of all its outflows and 30 per cent of all Japanese FDI to developing countries.⁶⁰ Taking into account all sources of FDI, annual inflows to the five ASEAN countries grew significantly during this period, starting from less than a billion dollars in 1970 to reach nearly US\$ 13 billion in 1992. These flows represented a large share of all FDI going to developing countries, averaging more than one-fifth during the 1970s and remaining above one-sixth in the 1980s (see Figure D.20).

While the increased regionalization of trade in parts and components would not have been possible without ASEAN's openness to trade and foreign investment, this may not have been sufficient for production networks to flourish. Production networks require low trade costs. They also require predictability in economic policy. Even if tariffs were being lowered by ASEAN countries, trade costs could still be a problem because of inadequate

infrastructural services (such as transportation and telecommunications) or bureaucratic red tape.

As production networks expand, they result in greater economic integration. Differences in legal systems and economic institutions among countries in such areas as product and services standards, intellectual

Figure D.19: Share of parts and components in intra-regional trade



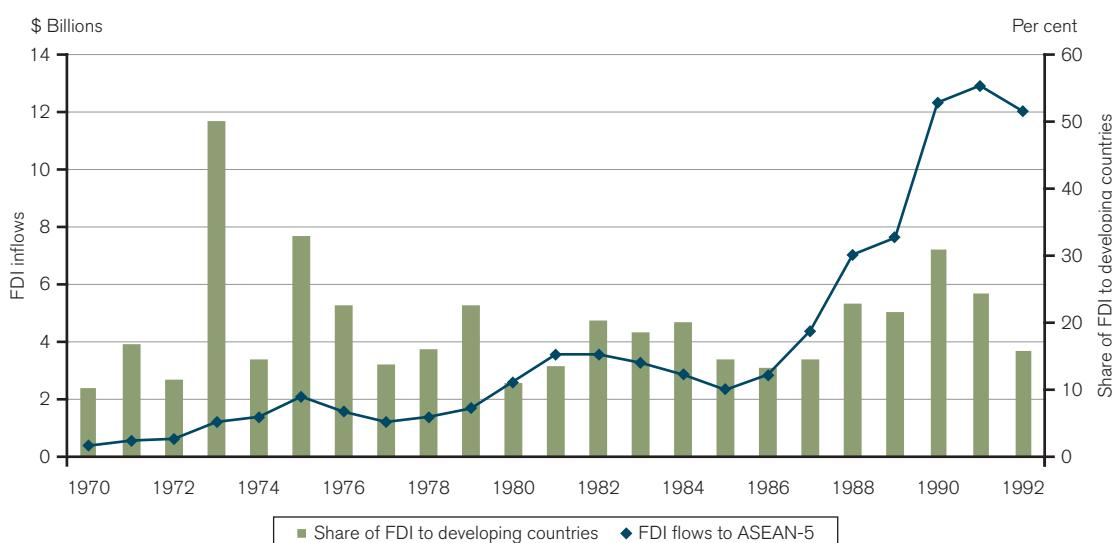
Source: Calculations using UN Comtrade data.

Table D.4: ASEAN-5 exports, 1967-92
(Million dollars)

| Year | Parts and components exports | Total exports | Share (per cent) |
|------|------------------------------|---------------|------------------|
| 1967 | 154.9 | 8,867.0 | 1.7 |
| 1970 | 235.1 | 12,213.7 | 1.9 |
| 1980 | 3,905.2 | 135,657.5 | 2.9 |
| 1990 | 38,562.2 | 276,095.8 | 14.0 |
| 1992 | 60,637.9 | 356,829.4 | 17.0 |

Source: Calculations using UN Comtrade data.

Figure D.20: FDI flows to ASEAN-5 and as share of FDI to developing countries, 1970-92



Source: UNCTAD FDI database (see <http://unctadstat.unctad.org/>).

property rights protection, investment protection, and access to dispute settlement mechanisms become more critical as a potential hindrance to production sharing. To keep the momentum of production networks going, countries increasingly needed to turn their attention to policies beyond tariff reduction.

Two recent papers by Pomfret and Sourdin (2009 and 2010) substantiate this view of the role played by the ASEAN free trade area. They maintain that ASEAN countries used their PTA as a vehicle for concerted trade facilitation and that the driving force behind these policies was the emergence of international production networks and the desire of ASEAN governments to increase the efficiency of these arrangements. Progress in reducing trade costs through improved customs administration and other facilitation measures benefits all trade and so gains accrue to members and non-members alike. It is therefore possible to use trade costs between ASEAN members and countries who are not parties to the PTA (such as Australia) to measure the impact of ASEAN's trade facilitation initiatives.

Pomfret and Sourdin find that the simple average *ad valorem* trade costs associated with the ten ASEAN countries' exports to Australia declined from 10.3 per cent in 1990 to 3.9 per cent in 2007, which was much more pronounced than the drop in the global average. The results are similar if data from other countries such as the United States or Brazil were used instead. The authors note that most of the observed reduction in trade costs relative to the global average occurred before 2002, when ASEAN was constructing its free trade area and there was little global movement towards implementing trade facilitation measures.

Another important element that may have played a role in the creation of regional rules and institutions was

the expansion of ASEAN's membership. In the 1990s, four new members, Cambodia, Lao PDR, Myanmar and Viet Nam, acceded to the organization.⁶¹ The economies of the new members were different from the older members both in terms of their stage of development and their market orientation. Lao PDR and Viet Nam were socialist economies and Cambodia was just emerging from a long civil war. With the exception of Myanmar, none were GATT/WTO members at that time.

The ASEAN Free Trade Area in 1992 was only the start of the PTA process. It was followed by services and intellectual property agreements in 1995, an investment agreement and dispute settlement mechanism in 1996, and a framework agreement on mutual recognition arrangements for standards in 1998. In sum, the trajectory followed by the ASEAN PTA process began with the regionalization of trade and production and culminated with the creation of formal regional rules and institutions to oversee a thriving and integrated regional economy.

The focus of this discussion on production networks and ASEAN is not intended to suggest that regionalism in South-East Asia is only about trade. As noted previously, the Association was partly intended to manage territorial disputes among some of its founding members and to contain any fallout from the war in Indochina. With respect to these goals, the Association has outdone even its most optimistic expectations. The region has been largely free of major conflict since the end of the war in Indochina. The organization has played a key role in managing big-power rivalries in East Asia. It has arguably facilitated the integration of Cambodia, Lao PDR and Viet Nam into the international community. Both Cambodia and Viet Nam are now members of the WTO

and among the fastest growing developing economies. Lao PDR is in the process of accession to the WTO. As is the case of other successful models of regional cooperation, the creation of regional public goods has also produced global benefits.

(c) Costa Rica

Production networks are often associated most closely with the Asia-Pacific region and Eastern Europe. Countries from other regions, however, may also be involved in international production networks where they also play a part in the process of PTA formation.

Monge-Ariño (2011) provides an insightful account of Costa Rica's trade policies over the past few decades. The country has managed to combine an active agenda in multilateral trade negotiations at the WTO with the negotiation of several preferential trade agreements. Its trade opening started in the mid-1980s with the unilateral reduction of import tariffs and continued with the accession to the GATT in 1990. Further trade opening resulted from the Uruguay Round (concluded in 1994) as well as from PTAs negotiated with Mexico, Chile, the Dominican Republic, Canada, the Caribbean Community (CARICOM), Panama, the United States, China, Singapore and the EU (see Table D.5). In addition, negotiations for a PTA with Peru began in 2010 and negotiations for a PTA with South Korea are anticipated to begin in 2011. Costa Rica's policy of trade opening has been accompanied by a strong emphasis on attracting FDI, particularly in high-tech manufacturing and services activities.

These policies resulted in significant changes in the structure of Costa Rica's exports, leading to a substantial rise in the share of manufacturing exports as well as trade in services in total exports, and a decrease in the dependence of the Costa Rican economy on traditional export commodities, such as coffee and bananas (Echandi, 2006). Costa Rica also saw an increase in its participation in international production networks, with 43 per cent of its total merchandise exports in 2009 directly related to five main supply chains: electronics, medical devices, automotive products, aeronautic/aerospace products and film/broadcasting devices (Monge-Ariño, 2011).

One of the pivotal moments in Costa Rica's involvement in international production networks came with the decision by Intel in 1996 to establish a US\$ 300 million semiconductor assembly and test plant in the country (World Bank, 2006). The variety of goods and services produced in Costa Rica and exported as part of these networks is relatively wide for an economy of Costa Rica's size. They range from computer parts and medical equipment to parts for cars and airplanes, and services such as the design of turbines for airplanes and the first ever plasma-propelled engine for space shuttles.

The overall average for the domestic component of exports associated with production networks was 36 per cent in 2009, ranging from 72 per cent in aeronautics/aerospace to 22 per cent in electronics (Monge-Ariño, 2011). The joint contribution of labour and capital to the domestic component of exports was 40 per cent in 2009, while locally provided services and supplies accounted for almost one-sixth and one-tenth,

Table D.5: Costa Rica's preferential trade agreements

| PTA | Current partners | Entry into force |
|---------------------------------|--|-------------------|
| CACM | El Salvador, Guatemala, Honduras, Nicaragua | 23 September 1963 |
| Costa Rica – Mexico | Mexico | 1 January 1995 |
| Costa Rica – Chile | Chile | 15 February 2002 |
| Costa Rica – Dominican Republic | Dominican Republic | 7 March 2002 |
| Costa Rica – Canada | Canada | 1 November 2002 |
| Costa Rica – CARICOM | Trinidad & Tobago | 15 November 2005 |
| | Guyana | 30 April 2006 |
| | Barbados | 1 August 2006 |
| Costa Rica – Panama | Panama | 24 November 2008 |
| CAFTA-DR-US | United States, El Salvador, Guatemala, Honduras, Nicaragua, Dominican Republic | 1 January 2009* |
| Costa Rica – China | China | ** |
| Costa Rica – Singapore | Singapore | ** |
| AACUE | EU – 27 | *** |

* This date refers to when the agreement entered into force for Costa Rica.

** Negotiation finished in early 2010 and submitted for legislative approval; entry into force expected in 2011.

*** Negotiation completed in early 2010; legal "scrubbing" is expected to be completed in early 2011.

Source: Monge-Ariño (2011).

respectively. The contribution of capital is more significant in the electronics sector, while the respective contributions of labour and locally provided services are more significant in the aeronautic/aerospace sector.

The link between production networks and PTAs seems apparent in Costa Rica's agreements with the United States (United States-Dominican Republic-Central America Free Trade Agreement) and with China.⁶² The share of parts and components in total trade, a customary indicator of production sharing, rose rapidly with both countries between 1995 and 2008. While total two-way trade with the United States grew by about 11 per cent annually, Table D.6 shows that parts and components trade expanded at about twice that rate.

Along with the strong trade performance between the two countries, US FDI flows rose more than eighteen-

fold between 1982 and 2008, from US\$ 142 million to US\$ 2.6 billion (see Figure D.21). As a consequence, Costa Rica's share of US FDI to Central America⁶³ climbed from less than 3 per cent in 1982 to about 20 per cent in 2008.

Turning to Costa Rica's links with China, two-way trade grew by an annual average rate of nearly 30 per cent between 1995 and 2008, while trade in parts and components grew at more than twice that rate (see Table D.7). Overall, trade in parts and components now make up about half of Costa Rica's trade with China.

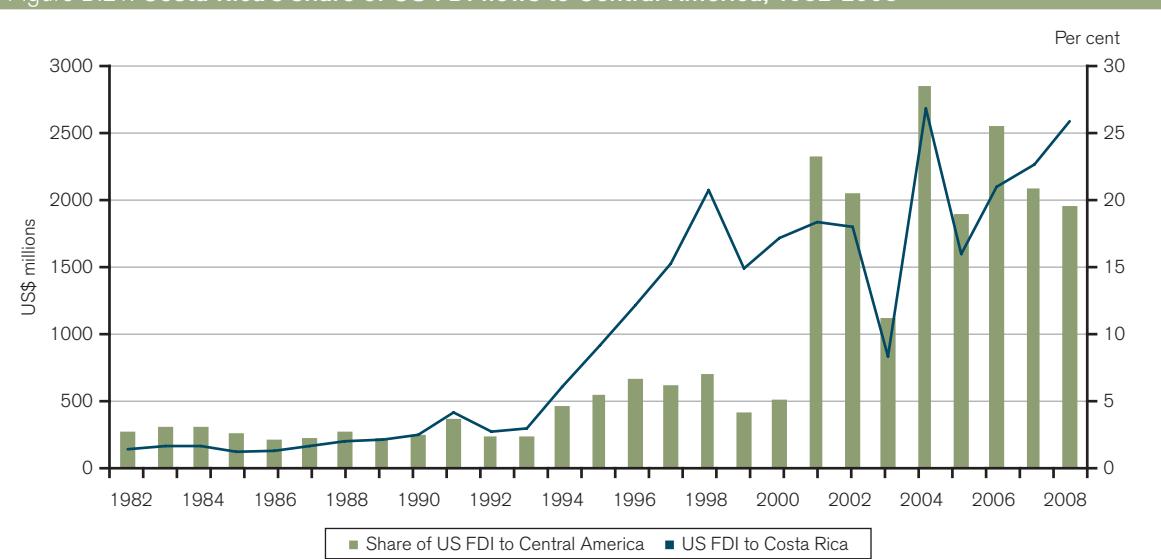
These facts are consistent with the explanation that Costa Rica's participation in international production networks was an important trigger for its trade agreements with the United States and China.

Table D.6: Costa Rica's two-way trade with the United States, 1995-2008 (Million dollars)

| Items | 1995 | 2008 | Average annual growth (Per cent) |
|-----------------------------------|---------|---------|-------------------------------------|
| Parts & components | 209.3 | 2,600.6 | 21.4 |
| All merchandise goods | 2,537.6 | 9,571.4 | 10.8 |
| Share of parts and components (%) | 8.2 | 27.2 | |

Source: UN Comtrade.

Figure D.21: Costa Rica's share of US FDI flows to Central America, 1982-2008



Source: US Department of Commerce, Bureau of Economic Analysis.

Table D.7: Costa Rica's two-way trade with China, 1995-2008 (Million dollars)

| Items | 1995 | 2008 | Average annual growth (Per cent) |
|-----------------------------------|------|---------|-------------------------------------|
| Parts & components | 1.1 | 694.2 | 64.2 |
| All merchandise goods | 50.1 | 1,478.4 | 29.7 |
| Share of parts and components (%) | 2.2 | 47.0 | |

Source: UN Comtrade.

4. African regional cooperation: lessons from deep integration?⁶⁴

Not all PTAs are prompted by international production networks and the trend towards deep integration. African regional cooperation is a case in point. Deep integration may nevertheless hold some useful lessons that can increase the returns from the process of African integration. Much of the subsequent discussion will refer to the experience of Sub-Saharan Africa. Hence it is essential not to lose sight of efforts by countries in North Africa to integrate with one another or with the rest of the continent. Efforts at integration in North Africa include the Agadir agreement (of which Jordan, a Middle Eastern country, is also a member) and the Arab Maghreb Union (AMU), which was created as the North African building block of the continent-wide African Economic Community.

The geopolitical configuration of Africa has been largely determined by the political forces of colonialism. The borders of African countries demarcated the colonies of the European powers, not the emergence of nation states in Africa. A fragmented continent is the result, with small markets, small economies, and a large number of landlocked countries significantly limiting development options. Fragmentation is associated with the lack of economies of scale in the production and distribution of goods and services and the impact of scale on the cost of public goods. In the early years of independence, attention focused strongly on the need to overcome the problems of scale and fragmentation. Continental economic and political unification was accepted as a rational response in order to create a larger economic space for industrialization and economic development.

This was an era of economic planning, and Africa's leadership believed that economic planning would be more practicable at a regional, and ultimately continental, level. Underpinning this policy approach was the conviction that the path to development would be industrialization, and diversification away from reliance on primary commodity production. The industrialization-regional integration links were clear. A larger, protected market would provide the space for viable industrialization to replace certain imports. This was at the time a well-accepted strategy for developing countries. The aim was to establish a broad range of industries across different sectors. Economic unification was seen as a solution to Africa's development dilemma, and political unification was required to make economic integration work. More recent experience has confirmed that political considerations are also key drivers of many African integration arrangements. However, even in these cases, regional integration remains a political arrangement that must be justified in economic terms.

The ambition of regional economic integration and the commitment to develop through industrialization were

important during the first decades of independence, and this provided the motivation for the Lagos Plan of Action (LPA). The LPA was an initiative of the Organisation of African Unity (OAU), adopted by Heads of State in April 1980, and actively supported by the United Nations Economic Commission for Africa (ECA).

The LPA emphasized the expected contribution of industrialization and the 1980s became the "Industrial Development Decade in Africa". The proposed framework for industrialization was the division of the continent into regional integration areas that would eventually constitute a united African economy, the African Economic Community. To achieve this, the ECA supported three regional integration arrangements: i) the Economic Community of West African States (ECOWAS), which was established in 1975, predating the LPA; ii) the Preferential Trade Area (PTA) covering East and Southern Africa, which was the precursor of the Common Market for Eastern and Southern Africa (COMESA); and iii) the Economic Community of Central African States (ECCAS). The Arab Maghreb Union was established in 1989, completing the coverage of the continent.

Apartheid South Africa was at this stage still excluded from the African integration plan. The Southern African Development Coordination Conference (SADCC) was established in 1980, supported by the European Union, with the specific aim of reducing economic dependence on South Africa. SADCC was not a market integration arrangement. Its broad development mandate focused on regional cooperation to ensure independence from South Africa for countries that were known as the frontline states.⁶⁵ As such, SADCC focused on cross-border, sector-specific projects, such as regional development corridors and the Southern African Power Pool.

In anticipation of South Africa's democratic transition, SADCC was transformed into the Southern African Development Community (SADC) in 1992. South Africa joined SADC in 1994, thus becoming part of the continental integration plan. In contrast to SADCC, SADC adopted an explicit market integration agenda and is a good example of a linear model of progressive integration in Africa. Although the SADC Treaty (and subsequently the SADC Trade Protocol) does not articulate a detailed plan for integration, the detail was provided in the Regional Indicative Strategic Development Plan of 2003. This strategic plan provides for the establishment of a free trade area by 2008, a customs union in 2010, a common market in 2015, monetary union in 2016 and the introduction of a single currency in 2018.⁶⁶ This approach was also adopted by the East African Community (EAC), established in 1999⁶⁷ and also by ECOWAS in West Africa. Progress in ECOWAS to establish a free trade area has been very slow and the customs union is still work in progress.

The SADC roadmap and the EAC integration plan reflect the general trend in Africa to adopt a linear model of progressive regional integration, characterized by ambitious targets. Of 14 regional economic

communities that existed in 2001, nine have a full economic union as the specified objective, one aims to become a common market (COMESA), one is an established customs union (the South African Customs Union) with no plans to move beyond this, while the remaining three aim for intra-regional free trade or regional cooperation. These agendas share the aim of transforming the African economic landscape and establishing “a strong united bloc of nations” over a period of just more than three decades.

An important step in this process requires the strengthening of the building blocks of regional economic communities. This involves an evolutionary process, moving from free trade areas and customs unions to a common market covering the continent (Economic Commission for Africa, 2004). The member states of COMESA, SADC and the EAC have undertaken recent commitments to establish a Tripartite Free Trade Area consisting of the 26 member states of these agreements. This is seen as an important step in addressing the problem of overlapping membership, a key feature of African regional integration agreements.⁶⁸

African regional integration focuses primarily on reducing barriers to trade in goods. Trade in services becomes a feature of the regional integration model when the common market stage is reached, but to date services have received very little attention in formal African integration arrangements. This is also true of forays by African countries into preferential trade agreements with external partners. The inclusion of services (and also other behind-the-border issues, such as investment, competition policy and government procurement) has proven contentious.

Africa's regional integration initiatives have achieved limited results, raising doubts about the approach adopted to addressing factors that inhibit regional trade. Barriers to trade that raise the costs of doing business can be classified as border or behind-the-border measures. African regional free trade arrangements have focused on border measures, and primarily on tariffs. Tariffs are undeniably an important barrier but they may not be the most important one.

Abundant anecdotal evidence suggests that time-consuming and inefficient border procedures may be more important than tariffs in inhibiting intra-regional trade. Multiple border crossings for goods to reach land-locked countries add significantly to the transaction costs of intra-regional trade. Many other constraints besides border barriers increase the transaction costs of trade. Geography is an important consideration. Given the limited availability of navigable inland waterways and the cheap transport this allows, the logistical costs of trade in goods are high. This is exacerbated by poorly developed transport systems, characterized by low per capita densities of rail and road transport infrastructure, which in colonial times was designed to transport primary products to port. Poorly developed cross-country road, air and rail connections are the outcome (McCord et al., 2005).

Transport costs in Africa are still among the world's highest. For example, shipping a car from Japan to Abidjan costs US\$ 1,500 whereas the comparable cost for transporting the same car from Addis Ababa to Abidjan would be US\$ 5,000 (Economic Commission for Africa, 2004). Both infrastructural and regulatory forces are at work. Overall, the high cost and unreliability of transport services contribute to a business environment in which firms are forced to keep higher levels of inventories, ruling out the possibility of adopting cost-saving management systems for “just in time” production (Collier, 2000).

The lack of skills and capital to establish and operate modern communication systems, combined with small business communities that do not allow financially viable business publications, mean that business news and information required for informed decision-making is another important constraint.⁶⁹ Fixed-line telephone services are limited and unreliable, with high call charges, especially for international calls. In most African economies the provision of fixed-line phone services is still the exclusive preserve of public monopolies. Business contracts require information on comparative prices and depend on reliable, fast and low-cost access to market information. Information is essential to efficient market outcomes, and a lack of readily available information at reasonable cost will raise trade transaction costs. Although these barriers also constrain trade with the rest of the world, their impact on intra-regional trade is particularly important.

The barriers discussed so far feature strongly on the demand side of intra-regional trade. These demand-side factors, however, may arguably be much less important than the weak supply-side capacity of African economies. Indeed, it may be argued that the real problem facing African economies is not market access (border constraints) but rather the capacity to produce tradable products competitively.

Expanding market access by lowering the transaction costs of trade is necessary, but will not guarantee economic growth and development. Enhanced market access without the capacity to produce goods and services to benefit from those opportunities will fail to produce higher economic growth. Effective supply-side capacity depends on sound macroeconomic and microeconomic policies, good governance, well-developed institutional capacities, adequate infrastructure and a sound business environment capable of attracting investment.

Supply-side constraints to efficient production could be partly addressed by a deep regional integration agenda. No single, ready-made recipe exists for effective deep regional integration. Among the factors relevant to Africa are integration of services markets, trade facilitation, improved market intelligence, dispute settlement mechanisms, revenue systems less dependent on trade taxes, funding for cross-border

infrastructure, and financing for regional institutions (Lamy, 2010). Development partners and international institutions could assist this process by recognizing that the emergence of regional groupings is relevant to the planning and implementation of development assistance. The WTO, for its part, is progressively regionalizing its Trade Policy Reviews and is now encouraging the regionalization of Aid for Trade, which aims to help developing countries develop the trade-related skills and infrastructure needed to implement and benefit from trade agreements and to expand their trade.

5. Conclusions

While not discounting other explanations for PTAs, a central focus of the literature on this subject has been on preferential tariffs. As a consequence, much of the economic analysis of the effects of PTAs has concentrated on the trade-creation and trade-diversion impacts of discriminatory access to individual markets.

The analysis in this section demonstrates that PTAs are not only about lowering tariffs. Ample evidence shows that commitments in PTAs cover a large number of non-tariff policy areas and have become deeper. As far as tariffs are concerned, the proliferation of PTAs has eroded preference margins over time. If tariff-related reasons do weigh with countries engaged in negotiating PTAs, they may be more concerned with avoiding negative discrimination than securing preferential tariffs. Furthermore, there is evidence – both statistical and through case studies – of a role for production networks in PTA formation.

Two important conclusions follow from the analysis in this section. First, research needs to focus increasingly on the reasons for establishing PTAs that go beyond the reduction of tariffs. Secondly, further reflection is needed on the implications for the multilateral trading system of deeper integration in PTAs. This and other questions bearing on coherence between PTAs and the multilateral trading system are the subject of the next section of this report.

Endnotes

- 1 See World Trade Organization (WTO) (2007).
- 2 Starting from a theoretical model of intra-industry trade, Anderson and van Wincoop (2003) derived a gravity-type reduced form equation for the bilateral trade between two countries, where trade between two countries depend on their gross domestic products (GDPs) and their relative trade costs. In particular, they show that in a theoretically founded gravity equation, trade between two countries, A and B, where A is the importer and B is the exporter, depends not only on their bilateral trade costs, but also on the overall level of barriers that exports of country B face in the rest of the world, and the overall level of restriction to imports that country A imposes on the rest of the world.
- 3 A similar approach has been used by Hoekman and Nicita (2008) and Carrère et al. (2008).
- 4 The estimate is based on a standard gravity model augmented by the RPM index.
- 5 Recall that over 70 per cent is traded at an MFN rate below 5 per cent and less than 15 per cent of trade shows relative preference margins greater in absolute values than 2 per cent.
- 6 See Kuijper (2010).
- 7 See Hsu (2006).
- 8 See Kuijper (2010).
- 9 See Hsu (2006).
- 10 See van Damme (2006).
- 11 See Kwak and Marceau (2006); Hillman (2009).
- 12 See Kwak and Marceau (2006).
- 13 See Horn et al. (2010).
- 14 ASEAN-China and MERCOSUR-India.
- 15 This figure is current as of 1 March 2011, counting notifications for agreements that are currently in force.
- 16 The four modes for supplying services under GATS include cross-border trade (mode 1), consumption abroad (mode 2), commercial presence (mode 3), and temporary movement of natural persons (mode 4).
- 17 Examples of agreements using the GATS approach include, for example, MERCOSUR and AFAS (ASEAN Framework Agreement on Services).
- 18 The rest of the agreements notified under GATS Article V are agreements that do not easily fit into the GATS-type or negative-list categories since they aim at deep regional integration, such as agreements between the EU and EU candidate countries.
- 19 Most United States PTAs, including all those notified after 2003, do not include a separate chapter on temporary entry for business persons.
- 20 For example, a number of more recent agreements have used negative-list modalities for a market access obligation modelled on GATS Article XVI that applies to all modes of supply. In NAFTA, there is no binding obligation along the lines of GATS Article XVI, while in GATS-type agreements such obligations apply on the basis of a positive-list approach. See Roy et al. (2007).
- 21 See Mattoo and Sauvé (2010).
- 22 For original WTO members, these are the commitments made in the period 1995–97.
- 23 See Roy et al. (2007) and (2008); Marchetti and Roy (2008b), Fink and Molinuevo (2008a) and (2008b), Miroudot et al. (2010).
- 24 On that see Mattoo and Wunsch-Vincent (2004).
- 25 See Roy et al. (2007).
- 26 Figures in this section rely on an extension of the dataset used in Roy et al. (2007), Roy et al. (2008), and Marchetti and Roy (2008b). It covers 68 PTAs involving 53 WTO members (counting the EU-15 as one). The list of WTO members (and their acronyms) and the set of services agreements covered can be found in Appendix Tables D.2 and D.3 respectively. This includes PTAs notified under Article V of the GATS between 2000 and 2010, as well as a few PTAs that have been signed, but have not yet entered into force and been notified. For each party to each PTA, the commitments undertaken for market access and national treatment in each service sub-sector have been compared to those undertaken in the GATS and those proposed in the most recent GATS offer in the DDA. The dataset covers mode 1 (cross-border supply) and mode 3 (commercial presence), and looks at commitments that are GATS+. Further information on the data can be found at: http://www.wto.org/english/tratop_e/serv_e/dataset_e.htm
- 27 See Marchetti and Roy (2008b).
- 28 As noted previously, a negative list identifies sectors or modes in respect of which commitments do not apply, while a positive list approach does the reverse.
- 29 See Fink and Molinuevo (2008b), Roy et al. (2007).
- 30 For the impact of regime type on PTAs, see, among others, Mansfield et al. (2008). Roy (2010) looks at the impact of democracy on levels of GATS commitments.
- 31 See, for example, Chaudhuri and Karmakar on various business services, Zhang on postal and courier services, Marchetti on financial services, Roy on audiovisual and distribution services or Tuthill on telecommunication services in Marchetti and Roy (2008a). Commitments on education and professional services, among others, are also examined in Roy et al. (2008).
- 32 See Carzaniga (2008).
- 33 See Stephenson and Delourme, (2010). See also Sauvé and Ward (2009) on the EU's mode 4 commitments in the PTA with the CARIFORUM.
- 34 See Miroudot et al. (2010); Fink and Molinuevo (2008b).
- 35 See Adlung and Molinuevo (2008), Berger et al. (2010).
- 36 See Adlung and Morrison (2010).
- 37 See UNCTAD (2010).
- 38 See http://www.unctadxi.org/templates/Page_____1007.aspx.
- 39 Houde et al. (2007) refers to the former as "GATS-inspired" agreements and to the latter as "NAFTA-style" agreements.
- 40 An alternative to the total number of provisions is a method that "scores" the various provisions in the investment chapter for the committed degree of openness. See for example Dee et al. (2006).

- 41 Additional information has been collected on the existence of mutual recognition arrangements.
- 42 See Rauch and Trindade (2002) for an assessment of the importance of information costs for trade.
- 43 See Collins and Rodrik (2000).
- 44 The extraterritorial application of competition policy may raise sovereignty concerns. States may prefer engagement in this area through discussion and political negotiation. Another possible explanation for these carve-outs from dispute settlement is that competition provisions are new to some PTA members, particularly developing countries. While developing countries might be willing to accept competition policy provisions (e.g. implement competition law, establish a competition authority, or act on anti-trust and abuse of dominant position), they may be uncertain about how quickly or how successfully they can fully implement these commitments.
- 45 See the analysis in Section C which demonstrates why, under certain conditions, trade-diversion effects are absent when regulatory barriers are removed in PTAs.
- 46 See Ravenhill (2009) and Ravenhill (2010) for a sceptical take on this interpretation of East Asian integration. He argues that the primary motivation for trade agreements in East Asia has been to secure diplomatic or strategic gains.
- 47 See studies such as Baier and Bergstrand (2007), Silva and Tenreyro (2006), Soloaga and Winters (2001), Ghosh and Yamarik (2004), Aitken (1973), Bertstrand (1985), Frankel (1997) and Frankel et al. (1995).
- 48 This analysis draws on Orefice and Rocha (2011) (forthcoming).
- 49 Principal component analysis is a mathematical procedure that orthogonally transforms a number of possibly correlated variables – in our case the different provisions included in an agreement – into a number of uncorrelated variables called principal components. The transformation is defined in such a way that the first principal component accounts for the highest level of variability in the data. Each succeeding component in turn has the highest variance possible under the constraint that it be orthogonal (that is, uncorrelated) to the preceding components.
- 50 For details on how the index on TBTs has been constructed see Section D.2. The index on competition policy is built as the unweighted sum of three different elements. The first element focuses on the general objectives of an agreement. This element takes the value of one whenever these objectives promote and advance conditions of fair competition between parties or establish cooperation between them in this field and zero otherwise. The second element represents the count of the total number of competition related provisions that are present both in the competition policy chapter and in other sections of an agreement such as investment and services. The third element counts the number of horizontal principles such transparency, non-discrimination and procedural fairness that are included in the agreement.
- 51 See Teh (2009) and Piermartini and Budetta (2009).
- 52 Gravity equations are derived from models that seek to explain or predict the relationship between a particular (dependent) variable (in this case bilateral trade in parts and components) and a set of other (independent or explanatory) variables whose values can be estimated (in this case elements of deep integration).
- 53 Endogeneity arises when an explanatory variable in an equation is correlated with the error term of the equation, and the error term is the unexplained deviation of sample data from their unobservable "true" value. Studies such as Baier and Bergstrand (2007) show that omitted variables, and to a lesser extent simultaneity, are the two most important sources of endogeneity bias caused by PTAs. The omitted variables problem of PTAs arises since the error term may retain the effect of some unobservable country-specific policy variables, which at the same time affect both trade and the probability of forming a PTA. If, for example, the formation of a PTA also induces reforms in trade-restrictive domestic regulation, the likelihood of an FTA is higher (since the expected gains from the FTA are higher), and the omission of the domestic regulation variable will bias the PTA coefficient downwards. A simultaneity problem can arise, for instance, when governments of two countries that trade more than their "natural" level of trade may be induced to form a PTA, as there is less probability of trade diversion. In this case, the PTA coefficients will be upward biased.
- 54 Specifically we estimate a fixed-effect gravity regression:

$$\ln(x_{ijt}) = \alpha_{ij} + \alpha_{it} + \alpha_{jt} + \beta_1(PTA_{ijt} * DEEPNESS_{ij}) + \varepsilon_{ijt}$$
where x_{ijt} represents the imports in parts and components from country i to country j in time t ; α_{ij} are fixed effects capturing country-pair specific variables such as distance or the fact that countries share the same border or the same language; α_{it} and α_{jt} are reporter and partner time specific fixed effects and capture factors such as the size of a country or its multilateral trade resistance. β_1 is the coefficient of our interest and it captures the effect of deep integration on trade. Finally, ε_{ijt} is the error term.
- 55 For a description of the pros and cons of alternative measures of international fragmentation of production, see World Trade Organization (WTO) (2008), Box 14.
- 56 For a classification of goods belonging to the category parts and components see Section B.3
- 57 See papers such as Baier and Bergstrand (2004) and Bergstrand et al. (2010).
- 58 Specifically we regress the following equation:

$$DEPTH_{ij} = a + \beta_1(PC_shr)_{ij} + \beta_2 X_{ij} + \varepsilon_{ij}$$
where Pc_shr_{ij} is the average share of trade in intermediates over total trade between countries i and j between 1980 and the year before the agreement is signed and X is a vector of control variables for the economic determinants of PTAs as (i) the economic size of the involved countries (represented by the sum of the logs of real GDP of the two countries, GDPSUM); (ii) the economic similarity between the two countries (represented by the log of the product of country i share of both countries' real GDP with country j share); (iii) the difference in the relative factor endowments (represented by the absolute value of the log difference between countries' per capita GDP, GDPDIF); (iv) its square values (SQGDPDIF); (v) distance and (vi) remoteness.
- 59 Included in this category are industries that manufacture general machinery, electrical machinery, transport equipment, and precision machinery.
- 60 For this specific calculation, developing countries are defined as all countries less Australia, New Zealand, Canada, the United States, the European Free Trade Agreement (EFTA) members and EC-9 (France, Germany, Italy, United Kingdom, Ireland, Denmark, Belgium, Luxembourg and Netherlands).
- 61 Viet Nam did not become a member until 1995. Lao PDR and Myanmar became members in 1998; while Cambodia became a member in 1999.

- 62 One cannot, of course, discount the possibility that other motivations may have also played a role. Griswold and Ikenson (2004), for instance, have argued that the CAFTA-DR-US agreement enhances important US foreign policy goals in a region that has experienced severe civil strife in the recent past.
- 63 Central America includes Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama.
- 64 This discussion is based on Hartzenberg (2011).
- 65 Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe.
- 66 The free trade agreement adopted in 2008 has not yet been fully implemented and at a ministerial task force meeting in March 2010 it was decided to postpone the establishment of the customs union, without committing to a specific deadline.
- 67 The EAC was founded when the presidents of Kenya, Tanzania and Uganda signed the Community's treaty in 1999. Burundi and Rwanda have since joined the EAC. A protocol to prepare the way towards a customs union was signed in March 2004, and a common market protocol was signed in June 2010. The current EAC is a revival of an earlier post-independence arrangement, also the East African Community, which was initiated by the East African Treaty for Cooperation signed in 1967. This EAC collapsed in 1977.
- 68 A tripartite summit of the Heads of State and Government of COMESA, SADC and EAC countries was held in Kampala, Uganda, on 22 October 2008. The Summit approved the expeditious establishment of a free trade area encompassing the member states of the three agreements. Integrating the three regional communities is seen as an important step in building the African Economic Community envisaged in the Abuja Treaty.
- 69 Collier and Venables (2008) make the point that large societies can be better informed than small societies because of the existence of scale economies in the commercial media. They mention that in Africa only "South Africa comes anywhere close to providing a market in which specialist journals are viable".

Appendix tables

Appendix Table D.1: List of PTAs and results of HMS mapping

| PTA | Date of entry into force | Member | Number of provisions | | | |
|-----------------------------|--------------------------|----------------------|----------------------|-------|----------------|-----------------|
| | | | WTO+ | WTO-X | WTO+ Leg. Enf. | WTO-X Leg. Enf. |
| ANDEAN Community | 25-May-88 | Developing | 4 | 11 | 3 | 3 |
| ASEAN free trade area | 28-Jan-92 | Developing | 2 | 0 | 2 | 0 |
| ASEAN-Australia-New Zealand | 01-Jan-10 | Developed-Developing | 11 | 8 | 11 | 5 |
| ASEAN-India | 01-Jan-10 | Developing | 9 | 0 | 8 | 0 |
| ASEAN-Korea, Rep. of | 01-Jan-10 | Developing | 12 | 11 | 11 | 8 |
| Australia-New Zealand | 01-Jan-83 | Developed | 8 | 2 | 6 | 1 |
| Australia-Singapore | 28-Jul-03 | Developed-Developing | 13 | 8 | 12 | 7 |
| Australia-Thailand | 01-Jan-05 | Developed-Developing | 14 | 8 | 13 | 5 |
| CAFTA-DR-US | 01-Mar-06 | Developed-Developing | 13 | 6 | 13 | 6 |
| CEFTA | 01-May-07 | Developed-Developing | 13 | 3 | 13 | 3 |
| CIS | 30-Dec-94 | Developing | 9 | 0 | 9 | 0 |
| COMESA | 08-Dec-94 | Developing | 10 | 19 | 7 | 4 |
| Canada-EFTA | 01-Jul-09 | Developed | 11 | 2 | 10 | 1 |
| Canada-Peru | 01-Aug-09 | Developed-Developing | 13 | 7 | 11 | 5 |
| Chile-Australia | 06-Mar-09 | Developed-Developing | 13 | 9 | 13 | 6 |
| Chile-China | 01-Oct-06 | Developing | 11 | 20 | 8 | 12 |
| Chile-Japan | 03-Sep-07 | Developed-Developing | 14 | 6 | 14 | 3 |
| Chile-Korea, Rep. of | 01-Apr-04 | Developing | 14 | 7 | 13 | 6 |
| China-ASEAN | 01-Jan-05 | Developing | 6 | 1 | 4 | 0 |
| China-Hong Kong, China | 01-Jan-04 | Developing | 5 | 3 | 5 | 0 |
| China-New Zealand | 10-Oct-08 | Developed-Developing | 13 | 8 | 13 | 8 |
| China-Pakistan | 01-Jul-07 | Developing | 9 | 2 | 9 | 2 |
| China-Peru | 01-Mar-10 | Developing | 12 | 13 | 12 | 2 |
| China-Singapore | 01-Jan-09 | Developing | 10 | 6 | 10 | 4 |
| Common Economic Zone | 20-May-04 | Developing | 12 | 5 | 12 | 2 |
| EAEC | 08-Oct-97 | Developing | 6 | 8 | 6 | 8 |
| EC Enlargement (12) | 01-Jan-86 | Developed | 6 | 15 | 6 | 14 |
| EC Enlargement (15) | 01-Jan-95 | Developed | 6 | 6 | 6 | 5 |
| EC Enlargement (25) | 01-May-04 | Developed | 8 | 16 | 8 | 16 |
| EC Enlargement (27) | 01-Jan-07 | Developed | 9 | 11 | 9 | 11 |
| Treaty of Rome | 01-Jan-58 | Developed | 10 | 12 | 10 | 9 |
| EU-Albania | 01-Dec-06 | Developed-Developing | 11 | 31 | 10 | 8 |
| EU-Algeria | 01-Sep-05 | Developed-Developing | 9 | 27 | 8 | 5 |
| EU-Bosnia Herzegovina | 01-Jul-08 | Developed-Developing | 9 | 2 | 9 | 2 |
| EU-CARIFORUM | 01-Nov-08 | Developed-Developing | 13 | 14 | 13 | 7 |
| EU-Cameroon | 01-Oct-09 | Developed-Developing | 11 | 5 | 7 | 2 |
| EU-Chile | 01-Feb-03 | Developed-Developing | 13 | 27 | 13 | 4 |
| EU-Croatia | 01-Mar-02 | Developed-Developing | 12 | 29 | 10 | 4 |
| EU-Côte d'Ivoire | 01-Jan-09 | Developed-Developing | 8 | 4 | 6 | 0 |
| EU-Egypt | 01-Jun-04 | Developed-Developing | 10 | 25 | 9 | 3 |
| EU-FYR Macedonia | 01-Jun-01 | Developed-Developing | 12 | 29 | 10 | 5 |

Appendix Table D.1: List of PTAs and results of HMS mapping (continued)

| PTA | Date of entry into force | Member | Number of provisions | | | |
|---------------------------------|--------------------------|----------------------|----------------------|-------|----------------|-----------------|
| | | | WTO+ | WTO-X | WTO+ Leg. Enf. | WTO-X Leg. Enf. |
| EU-Faroe Islands | 01-Jan-97 | Developed | 5 | 2 | 5 | 1 |
| EU-Iceland | 01-Apr-73 | Developed | 6 | 1 | 6 | 1 |
| EU-Jordan | 01-May-02 | Developed-Developing | 13 | 20 | 9 | 5 |
| EU-Lebanon | 01-Mar-03 | Developed-Developing | 8 | 3 | 8 | 2 |
| EU-Montenegro | 01-Jan-08 | Developed-Developing | 11 | 2 | 10 | 2 |
| EU-Morocco | 01-Mar-00 | Developed-Developing | 10 | 18 | 9 | 4 |
| EU-Norway | 01-Jul-73 | Developed | 6 | 1 | 6 | 1 |
| EU-Overseas Territories | 01-Jan-71 | Developed-Developing | 8 | 17 | 7 | 6 |
| EU-Palestinian Authority | 01-Jul-97 | Developed-Developing | 11 | 20 | 8 | 3 |
| EU-South Africa | 01-Jan-00 | Developed-Developing | 10 | 26 | 8 | 2 |
| EU-Switzerland Liechtenstein | 01-Jan-73 | Developed | 6 | 1 | 6 | 1 |
| EU-Syria | 01-Jul-77 | Developed-Developing | 4 | 4 | 4 | 1 |
| EU-Tunisia | 01-Mar-98 | Developed-Developing | 11 | 20 | 9 | 4 |
| EU-Turkey | 01-Jan-96 | Developed-Developing | 10 | 4 | 9 | 3 |
| ECOWAS | 24-Jul-93 | Developing | 7 | 13 | 5 | 3 |
| EFTA-Israel | 01-Jan-93 | Developed-Developing | 9 | 4 | 8 | 2 |
| EFTA-Korea | 01-Sep-06 | Developed-Developing | 13 | 4 | 13 | 4 |
| EU-San Marino | 01-Apr-02 | Developed | 4 | 3 | 4 | 1 |
| EU-Serbia | 01-Feb-10 | Developed-Developing | 9 | 3 | 9 | 2 |
| GCC | 01-Jan-03 | Developing | 5 | 8 | 4 | 4 |
| India-Singapore | 01-Aug-05 | Developing | 11 | 7 | 11 | 5 |
| Japan-ASEAN | 01-Dec-08 | Developed-Developing | 9 | 10 | 9 | 10 |
| Japan-Indonesia | 01-Jul-08 | Developed-Developing | 9 | 8 | 9 | 4 |
| Japan-Malaysia | 13-Jul-06 | Developed-Developing | 10 | 6 | 10 | 5 |
| Japan-Mexico | 01-Apr-05 | Developed-Developing | 12 | 9 | 12 | 9 |
| Japan-Philippines | 11-Dec-08 | Developed-Developing | 11 | 8 | 9 | 5 |
| Japan-Singapore | 30-Nov-02 | Developed-Developing | 12 | 7 | 11 | 3 |
| Japan-Switzerland | 01-Sep-09 | Developed | 12 | 8 | 12 | 7 |
| Japan-Thailand | 01-Nov-07 | Developed-Developing | 9 | 9 | 9 | 4 |
| Japan-Viet Nam | 01-Oct-09 | Developed-Developing | 12 | 5 | 12 | 4 |
| Korea, Republic of-India | 01-Jan-10 | Developing | 14 | 11 | 13 | 4 |
| Korea, Republic of-Singapore | 02-Mar-06 | Developing | 12 | 9 | 12 | 4 |
| MERCOSUR | 29-Nov-91 | Developing | 9 | 3 | 9 | 3 |
| MERCOSUR-India | 01-Jun-09 | Developing | 7 | 0 | 7 | 0 |
| NAFTA | 01-Jan-94 | Developed-Developing | 14 | 8 | 14 | 7 |
| PAFTA | 01-Jan-98 | Developing | 2 | 0 | 2 | 0 |
| Russian Federation-Ukraine | 21-Feb-94 | Developing | 4 | 1 | 4 | 0 |
| SACU | 15-Jul-04 | Developing | 7 | 4 | 4 | 0 |
| SAFTA | 01-Jan-06 | Developing | 4 | 0 | 2 | 0 |
| SADC | 01-Sep-00 | Developing | 11 | 1 | 10 | 0 |
| Turkey-EFTA | 01-Apr-92 | Developed-Developing | 11 | 2 | 10 | 2 |

Appendix Table D.1: List of PTAs and results of HMS mapping (continued)

| PTA | Date of entry into force | Member | Number of provisions | | | |
|----------------------|--------------------------|----------------------|----------------------|-------|----------------|-----------------|
| | | | WTO+ | WTO-X | WTO+ Leg. Enf. | WTO-X Leg. Enf. |
| US-Australia | 01-Jan-05 | Developed | 14 | 8 | 14 | 6 |
| US-Bahrain | 01-Aug-06 | Developed-Developing | 12 | 4 | 12 | 4 |
| US-Israel | 19-Aug-85 | Developed-Developing | 11 | 0 | 10 | 0 |
| US-Jordan | 17-Dec-01 | Developed-Developing | 6 | 5 | 5 | 4 |
| US-Morocco | 01-Jan-06 | Developed-Developing | 14 | 6 | 13 | 6 |
| US-Oman | 01-Feb-09 | Developed-Developing | 13 | 6 | 13 | 6 |
| US-Peru | 01-Feb-09 | Developed-Developing | 14 | 7 | 14 | 7 |
| Ukraine-Belarus | 11-Nov-06 | Developing | 6 | 1 | 6 | 1 |
| Ukraine-Kazakhstan | 19-Oct-98 | Developing | 4 | 1 | 4 | 1 |
| Ukraine-Turkmenistan | 04-Nov-95 | Developing | 4 | 1 | 4 | 1 |

Source: WTO Secretariat.

Appendix Table D.2: Acronyms and members

| Acronyms | Member | Acronyms | Member |
|----------|---------------------|----------|----------------------------------|
| ARG | Argentina | KNA | Saint Kitts and Nevis |
| ATG | Antigua and Barbuda | KOR | Rep. of Korea |
| AUS | Australia | LCA | St. Lucia |
| BHR | Bahrain | LIE | Liechtenstein |
| BLZ | Belize | MAC | Macao, China |
| BRA | Brazil | MAR | Morocco |
| BRB | Barbados | MEX | Mexico |
| BRN | Brunei Darussalam | MYS | Malaysia |
| CAN | Canada | NIC | Nicaragua |
| CHE | Switzerland | NOR | Norway |
| CHL | Chile | NZL | New Zealand |
| CHN | China | OMN | Oman |
| COL | Colombia | PAK | Pakistan |
| CRI | Costa Rica | PAN | Panama |
| DMA | Dominica | PER | Peru |
| DOM | Dominican Rep. | PHL | Philippines |
| EC | European Union | PRY | Paraguay |
| GRD | Grenada | SGP | Singapore |
| GTM | Guatemala | SLV | EI Salvador |
| GUY | Guyana | SUR | Suriname |
| HKG | Hong Kong, China | CHT | Chinese Taipei |
| HND | Honduras | THA | Thailand |
| IDN | Indonesia | TTO | Trinidad and Tobago |
| IND | India | URY | Uruguay |
| ISL | Iceland | USA | USA |
| JAM | Jamaica | VCT | Saint Vincent and the Grenadines |
| JOR | Jordan | VNM | Viet Nam |
| JPN | Japan | | |

Source: WTO Secretariat.

| Appendix Table D.3: List of services agreements in the database used for this report | | |
|--|----------------------------------|---|
| Korea (Rep.)-India | Japan-Thailand | EFTA-Chile |
| ASEAN-Korea (Rep.) | Chile-Japan | Korea (Rep.)-Chile |
| ASEAN-Australia-New Zealand | Chile-China | EU-Chile |
| Honduras-El Salvador-Taipei, Chinese | India-Singapore | Chile-El Salvador |
| Peru-China | Panama-Singapore | China-Macao, China |
| Japan-Viet Nam | US-Bahrain | China-Hong Kong, China |
| Japan-Switzerland | EFTA-Korea (Rep.) | US-Singapore |
| Chile-Colombia | Costa Rica-Mexico | US-Chile |
| Canada-Peru | Japan-Malaysia | Singapore-Australia |
| Panama-Taipei, Chinese | Mexico-Honduras | EFTA-Singapore |
| Nicaragua-Taipei, Chinese | Jordan-Singapore | Japan-Singapore |
| China-New Zealand | Mexico-Guatemala | Chile-Costa Rica |
| Australia-Chile | Mexico-El Salvador | US-Jordan |
| China-Singapore | Dominican Rep.-Cent. America-USA | New Zealand-Singapore |
| US-Peru | Korea (Rep.)-Singapore | EFTA-Mexico |
| US-Oman | US-Morocco | Chile-Mexico |
| Japan-Philippines | Thailand-New Zealand | EU-Mexico |
| EU-CARIFORUM | Mexico-Nicaragua | US-Korea (Rep.) |
| Brunei Darussalam-Japan | ASEAN-China | Mercosur (6 th negotiated round) |
| Japan-Indonesia | Japan-Mexico | ASEAN (7 th package) |
| Panama-Chile | Panama-El Salvador | US-Colombia |
| Pakistan-Malaysia | Thailand-Australia | US-Panama |
| Pakistan-China | US-Australia | |

Source: WTO Secretariat.

Appendix Table D.4: The effects of deep integration on production networks

| Dependent variable | Trade in parts and components (log) | | | | | | |
|--|-------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| PTA _{ij} | 0.299*** (0.020) | | | | | | |
| PTA _{ij} * Number of provisions | | 0.0165*** (0.001) | | | | | |
| PTA _{ij} * Number of WTO-X provisions | | | 0.0265*** (0.002) | | | | |
| PTA _{ij} * Number of WTO+ provisions | | | | 0.0310*** (0.002) | | | |
| PTA _{ij} * Principal Component Analysis Index | | | | | 0.0773*** (0.007) | | |
| PTA _{ij} * TBT Index | | | | | | 0.0138*** (0.001) | |
| PTA _{ij} * Competition Policy Index | | | | | | | 0.0308*** (0.002) |
| Country pair fixed effects | yes | yes | yes | yes | yes | yes | yes |
| Country-time fixed effects | yes | yes | yes | yes | yes | yes | yes |
| Observations | 60,473 | 60,473 | 60,473 | 60,473 | 60,473 | 27,524 | 32,733 |
| R-squared | 0.328 | 0.328 | 0.327 | 0.327 | 0.327 | 0.434 | 0.414 |
| Number of country pairs | 3,485 | 3,485 | 3,485 | 3,485 | 3,485 | 1,386 | 1,657 |

Note: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Source: WTO Secretariat estimates.

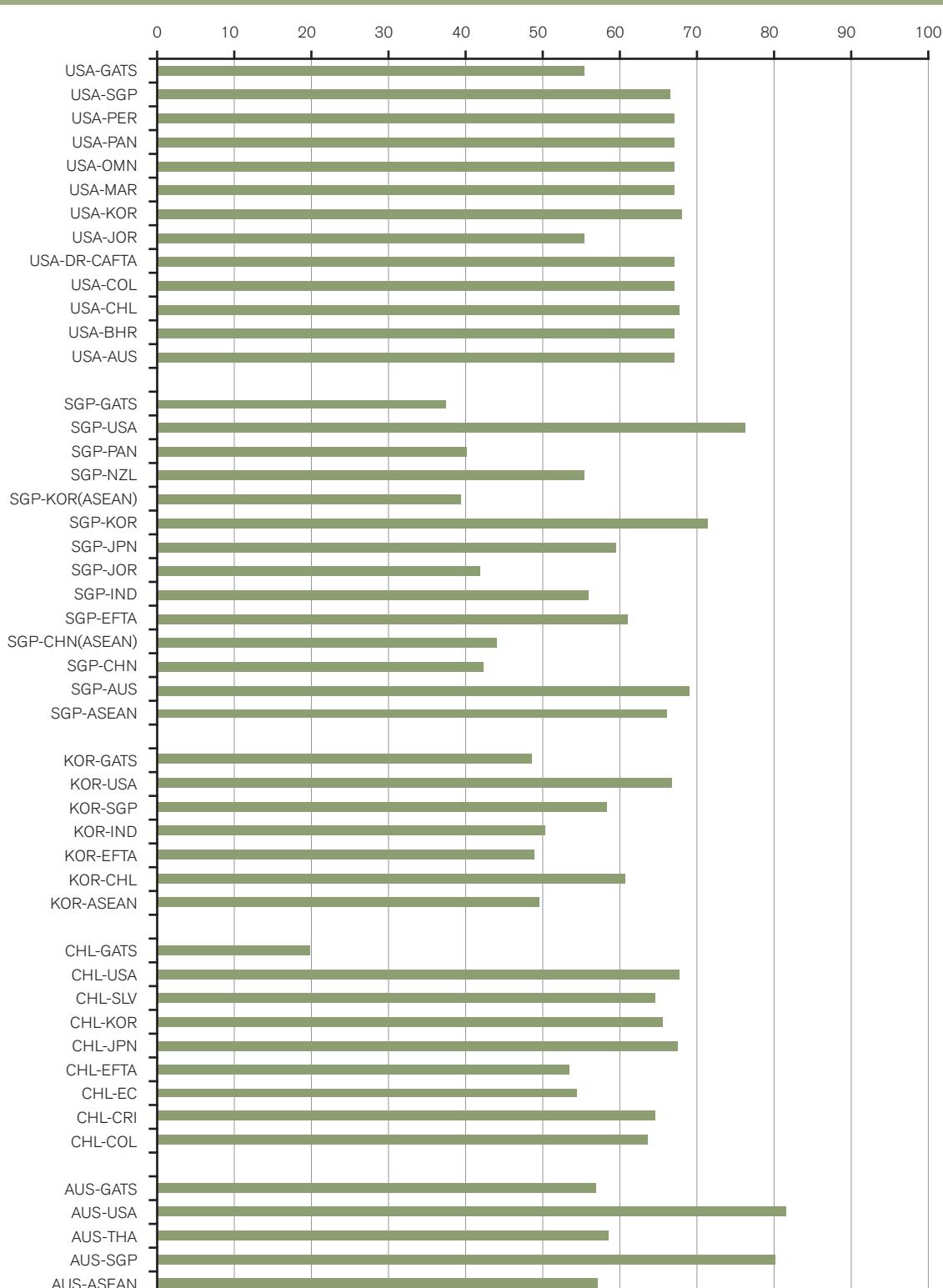
Appendix Table D.5: The effects of trade in parts and components on deep integration

| Dependent Variable | Number of Provision | Number of WTO-X provision | Number of WTO+ provision | Principal Component Analysis Index |
|--|----------------------|---------------------------|--------------------------|------------------------------------|
| Share of trade in parts and components over total trade (ln) | 0.0880*** (0.028) | 0.0107 (0.024) | 0.0630*** (0.017) | 0.0234*** (0.006) |
| Country fixed effects | yes | yes | yes | yes |
| Observations | 2,572 | 2,572 | 2,572 | 2,572 |
| R-squared | 0.962 | 0.955 | 0.917 | 0.927 |

Note: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. distance and remoteness. Other control variables included in the regression: GDPSUM, GDPSIM, GDPDIF, SQGDPDIF

Source: WTO Secretariat estimations.

Appendix Figure D.1: Variations in the level of commitments offered in different PTAs: Australia, Chile, Republic of Korea, Singapore and United States



Note: This Figure uses an index that captures improvements in "partial" commitments from one agreement to the next. GATS stands for GATS commitments and offer. Scores of 0, 0.5 and 1 are given for uncommitted, partially committed and fully committed subsectors, respectively, for modes 1 and 3. It also captures improvements in partial commitments by attaching to them between 0.5 and 1. This Figure underscores differences between the commitments a member undertakes in different PTAs, but is not best used to compare GATS+ commitments that different members undertake. The index is brought onto a 0-100 scale, with 100 representing full commitments in all subsectors and relevant modes. The legend of the acronyms for the members is provided in Appendix Table D.2.

Source: From updated data Marchetti and Roy (2008).

E. The multilateral trading system and PTAs

A perennial policy question is how the multilateral trading system is affected by the rise of preferential trading agreements (PTAs). Is multilateral trade cooperation compromised by burgeoning regionalism? Should we see these different approaches as complementing or competing with each other? Are there synergies, or inevitable conflicts? Building on the analysis of the report so far, this final section examines these questions.

Contents

| | |
|--|-----|
| 1. Systemic effects of preferential tariff liberalization | 166 |
| 2. Deep PTA provisions and the multilateral trading system | 168 |
| 3. Regionalism and the WTO: historical perspective | 182 |
| 4. The relationship between PTAs and the WTO | 187 |

Some key facts and findings

- Deep integration is often non-discriminatory in nature.
- Global production networks can result in PTAs with tariff and non-tariff measures that are more consistent with the principles of the multilateral trading system.
- A large number of disputes between PTA members are brought to the WTO dispute settlement system. On average, about 30 per cent of WTO disputes are between members who are parties to the same PTA.
- A critical-mass approach to decision-making in the WTO may be required, at least in the short term, to move forward on an agenda that creates greater coherence between PTAs and the multilateral trading system.

1. Systemic effects of preferential tariff liberalization

In the late 1980s and early 1990s, a series of events led analysts to focus on the systemic effects of regional integration (Baldwin, 2009).¹ Regionalism rose in North America, where the Canada-United States PTA was followed by the North American Free Trade Agreement (NAFTA) negotiations. It also reignited in Europe with the Single European Market initiative and the disintegration of the Soviet Union. At the same time, the prospects for a prompt and comprehensive completion of the Uruguay Round were shrouded in uncertainty.

The possibility of a causal link between the expansion of regionalism and difficulties in coming to closure in multilateral negotiations could not be ignored. This turned the regionalism debate into a systemic discussion. This section provides a short overview of the literature in this area, drawing on several surveys that have been published recently: Baldwin (2009), Freund and Ornelas (2010) and Winters (2011).

The broad concern of this literature is the relation between discriminatory and non-discriminatory tariff liberalization. The standard approach is to study whether preferential tariff cuts lead to a reduction or to an increase in the most-favoured nation (MFN) tariff, which is applied by WTO members on a non-discriminatory basis. As discussed in Section C, the evidence so far is not conclusive. However, there are some studies that focus on the effect of preferential tariff liberalization on non-discriminatory tariff liberalization.² Due to the paucity of adequate data, opportunities for convincing empirical work are limited. The literature is therefore mostly theoretical, and its predictions are often supported only by anecdotal evidence.

(a) Do PTAs foster or hinder multilateral tariff reductions?

A number of different mechanisms have been identified through which PTAs could foster or hinder multilateral trade opening.

As discussed in Section C, the Kemp-Wan theorem is a theoretical benchmark showing that PTAs need not have adverse effects on multilateral tariff reductions. Starting from a situation where all countries have MFN tariffs, groups of nations can always raise their collective welfare by forming a trade bloc. A piecemeal enlargement of the bloc will raise bloc members' welfare, and the highest welfare will be reached when all nations are part of the bloc (Kemp and Wan, 1976). This theoretical result rests on two strong assumptions. First, PTA members must set external tariffs at levels that freeze their trade flows with the rest of the world. Secondly, lump-sum transfers between members ensure that they all gain from the PTA.³

The fear of preference erosion is an important aspect of the relationship between preferential and multilateral tariff opening.⁴ In a world where more open trade would be in the interest of all nations but where individual nations fearing erosion of their preferences would veto it, regionalism can help achieve global trade opening. Baldwin (2009) illustrates the argument with an example where Home country signs separate PTAs with Partner 1 and with Partner 2, thereby forming a so-called hub and spoke system. This system puts Home in a favourable position as it combines opening trade on the import side with preferential tariffs on the export side. Home, the hub, is likely to oppose WTO talks aimed at achieving more open trade for fear of preference erosion. Despite this, Home and its two partners could reach global trade opening, not through multilateral negotiations, but rather through a PTA between the two spokes. As Baldwin shows, the two partners would always prefer global trade opening to the hub-and-spoke situation.

The fear of preference erosion can, however, constitute a potent force of resistance to multilateral tariff reductions. The economic literature has shown that two or more nations can form a PTA which increases their joint welfare at the expense of third nations. Such a PTA will hinder multilateral trade opening because its removal will be resisted by member countries precisely to avoid preference erosion. This can be true not only if PTA members increase their external MFN tariffs, but also when external tariffs are frozen. Baldwin (2009) provides an example in which at a sufficiently low initial tariff, the gains of maintaining a PTA that reduces third-country welfare are worth more than the standard gains of global trade opening.⁵

Developing countries that were granted non-reciprocal preferential access to developed countries' markets are particularly concerned by preference erosion, particularly where reduced advantages from preferential tariffs are not offset by the gains in market access due to tariff cuts on goods that do not receive preferences.⁶

Political economy factors can also affect the pace at which preferential tariffs are extended to non-members on a MFN basis. If PTAs are trade-creating, they will increase the size of export sectors and reduce the size of import-competing sectors. If political power is proportional to the size of the sector, the PTA will increase support for trade opening.⁷ In particular, it can make it politically optimal for governments to cut MFN tariffs to levels that would have been undesirable without the PTA.⁸

Along the same lines, if workers have imperfect information on how they will be affected by more open trade, they may initially oppose global trade opening but accept a PTA, which is an intermediate form of trade barrier reduction (Frankel et al., 1995). A PTA

may inform workers on how they will be affected by global trade opening and make an MFN approach politically feasible.

The political economy models discussed in Section C (Grossman and Helpman, 1995; Krishna, 1998), however, offer some insights as to why PTAs might inhibit multilateral tariff reductions. In such models, interest groups might seek primarily trade-diverting PTAs, i.e. agreements that provide enhanced protection.⁹ In Krishna's model the extent of trade diversion determines the degree of political opposition to a multilateral agreement that would find support in the absence of the PTA. Intuitively, if there is little or no trade diversion, firms from each member country obtain higher market shares (and profits) in the other member's market but lose domestic profits, with an overall small effect on net profits. However, if the PTA allows bloc firms to displace those from excluded countries in each other's markets, it surely enhances profits for all firms, at the expense of outsiders (Freund and Ornelas, 2010).¹⁰

The result that specific interest groups might oppose multilateral trade opening that would be supported in the absence of a PTA is also obtained in a median-voter setting by Levy (1997). He shows that a bilateral PTA might offer disproportionately large gains to key agents in a country, making them unwilling to support a multilateral agreement, which would therefore be blocked. This might be the case, for instance, if the two countries have similar factor endowments, so that a lot of trade within the PTA is intra-industry trade, with limited redistributive effects. A move towards multilateral opening would alter domestic factor prices, creating winners and losers and adding only modest gains from increased variety or specialization based on comparative advantage. In this case, the median voter would oppose such a move, and the PTA acts as an obstacle to multilateral trade opening.

Some PTAs may be concluded partly in pursuit of non-economic objectives, such as understanding and reconciliation between former enemies (e.g. France and Germany), or between nations with former colonial links (Schiff and Winters, 1998). As discussed in Section C, some authors have argued that these non-economic objectives might lead member countries to oppose further multilateral trade opening. In a model by Limão (2007), PTAs allow partner countries to extract mutual cooperation on the non-trade issue, using preferential tariffs as bargaining chips. The prospect of dissipating this possibility via multilateral trade opening might make countries less likely to favour a global approach.¹¹

PTAs may also increase the adjustment costs associated with multilateral trade opening when firms have to make sunk, sector-specific investments to produce. As shown by McLaren (2002), in such a situation the *ex post* gains from multilateral reductions

can be reduced relative to those from preferential trade opening, and the latter emerges in equilibrium. The reason is the following: if firms expect global trade opening to arise, they will invest in sectors of comparative advantage, so every country will become highly specialized. In this situation, the *ex ante* gains of multilateral trade opening materialize, and such opening is likely to occur. If, however, firms expect a PTA to be signed, they will invest in goods in which excluded countries have a comparative advantage, because external tariffs will render these goods expensive. For similar reasons, firms from excluded countries will invest in goods where PTA members have a comparative advantage. As PTA countries become specialized relative to each other, and less specialized relative to outsiders, the gains from global trade opening will be reduced. As McLaren (2002) explains, the resulting regionalism is "insidious" because it is an inferior outcome for all participants, and it emerges only because it prompts sunk investments that reduce the value of multilateral trade opening.

Finally, opposition to further multilateral tariff opening by PTA members might come from excluded countries. The logic is as follows: if PTA members reduce their external tariffs for political economy reasons after signing an agreement, this might result in pure trade creation. As argued by Ornelas (2005b), non-members benefit from such PTAs by obtaining increased market access to member countries without having to reduce their own tariffs, as would be required under a multilateral agreement. Therefore, non-members may turn against multilateral trade opening that they would support in the absence of the PTA.¹²

The overview of the literature thus suggests that the effect of regionalism on the prospects of multilateral trade opening will depend on a number of factors. The results depend on how much members and non-members stand to gain from a PTA, and how much they would lose from multilateral trade opening, on the importance of political economy considerations in policy formation, and on the extent of lock-in effects of preferential trade opening. Moreover, results depend on whether regionalism is open or not (Yi, 1996); on the presence of dissimilarities in endowments or costs (Saggi and Yıldız, 2009); on the rules of the multilateral trade system (Bagwell and Staiger, 1999; Saggi and Yıldız, 2009); as well as on the formal enforcement constraints (Bagwell and Staiger, 1997a: 1997b).

(b) Evidence on the systemic effects of regionalism

When the theory is inconclusive, the most natural thing to do is to turn to empirical evidence. A first strand of literature tests whether MFN and preferential tariffs are complements or substitutes.¹³ As discussed in Section C, different results emerge for developing and developed countries. While in the former group of

countries preferential trade agreements appear to reduce external tariffs, in the latter group of countries they seem to increase them. Most of the contributions do not distinguish between MFN tariffs that have been negotiated at the multilateral level and unilateral tariff reductions.¹⁴ The notable exceptions are Limão (2006) and Karacaövalı and Limão (2008), who explicitly consider the effect of preferential trade opening on multilateral trade opening at the Uruguay Round in the United States and the European Union, respectively.¹⁵

A second strand of literature investigates the correlation between PTA formation and multilateralism. One often-used example of regionalism promoting multilateral trade opening is when the United States, which for many years had been advocating multilateralism, converted to regionalism in the 1990s and thereby revived the Uruguay Round negotiations (Bergsten and Schott, 1997).¹⁶ Mansfield and Reinhardt (2003) observe that more PTAs are formed during multilateral negotiations than at other times. They interpret this result as evidence consistent with multilateralism promoting PTAs as devices to obtain bargaining leverage within the multilateral regime (pressuring outsiders to open their markets or escaping from free-riders).

A general problem with the approach of linking PTAs with multilateral trade rounds is that the latter are rare events. Moreover, the practice of multilateral trade rounds is to negotiate multilateral opening with more or less ambitious scenarios of trade opening, rather than opting for full or no multilateral opening. Therefore, a direct test of whether PTAs decrease the likelihood of signing multilateral trade opening agreements is impossible (World Trade Organization (WTO), 2007).

Anecdotal evidence can be found in support both of the view that PTAs facilitate further multilateral trade opening and of the view that they hinder it.¹⁷ On the one hand, there is anecdotal evidence that PTAs increase excluded countries' incentive to move on the multilateral front to avoid trade diversion. A related argument is that the last three rounds of multilateral trade negotiations have started in tandem with major moves towards regional integration, which is sometimes taken as evidence of the building block relationship between the two processes. Furthermore, the cost from overlapping PTAs can trigger a rationalization of the system – as in the case of the Pan-European Cumulation System – or a recourse to the multilateral system – as in the case of the WTO Information Technology Agreement.¹⁸

On the other hand, it has been argued that the concern for preference erosion has contributed to the stalling of multilateral negotiations and has actually been reflected in less multilateral trade opening, see for instance Curtis and Vastine (1971). Furthermore, there is also evidence that the engagement in regional

negotiations may stall the process of multilateral trade opening by absorbing resources away from the multilateral negotiations (World Trade Organization (WTO), 2007).

2. Deep PTA provisions and the multilateral trading system

While the literature on the systemic effects of preferential tariffs is rich and very active, so far there has not been much research on the systemic effects of other, “deep” integration provisions. Available results suggest that in some deep integration areas, such as technical barriers to trade (TBT), multilateral regulation may not be economically optimal or politically feasible. Because deep integration is often MFN in nature, however, such regulation may also be less necessary. Indeed, the literature has identified a number of mechanisms through which deep integration “automatically” supports further opening, or at least does not entail negative static effects on the multilateral trading system.

(a) Deep integration is often non-discriminatory in nature

By their very nature, some deep integration provisions are *de facto* extended to non-members because they are embedded in broader regulatory frameworks that apply to all. An example is provided by services trade opening. Barriers to trade in services are generally behind-the-border, regulatory measures. Even though some services barriers could in practice be applied in a differentiated manner depending on the suppliers' country of origin (e.g. restrictions on the movement of persons, foreign equity restrictions, or foreign direct investment screening), one expects that barriers removed or relaxed as a result of a PTA be extended *de facto* to non-parties. This also makes most economic sense, and may limit any economic distortion resulting from services PTAs.¹⁹

Evidence suggests that in certain cases, preferential treatment was granted to PTA parties, but proper analysis of this is made difficult by the absence of comprehensive information on the treatment applied by countries to services and suppliers of their trading partners. This is compounded by the fact that analysis of non-discriminatory treatment in services would need to consider not only treatment specified in laws and regulations, but also *de facto* treatment – for example, which suppliers receive operating licences, which are sometimes limited in number. Furthermore, given the importance of first-mover advantage for suppliers in a number of services sectors,²⁰ what matters is whether non-preferential treatment is available for all suppliers of different origins from the moment trade opening takes place. While this may well be the situation most of the time, information is lacking.

The fact that services commitments in PTAs can be non-discriminatory also suggests that any technical or economic obstacle to the multilateral extension of such PTA commitments as part of the Doha Round would be limited. It can be hoped that preferential commitments made by several WTO members make their way into these members' conditional offers and inject momentum in the Doha services negotiations. This has not happened in offers currently on the table – which for the most part were submitted in 2005 – therefore suggesting that other factors are at play, either within the Doha negotiations or domestically. One such factor may be that, in the context of the growing number of preferential trade agreements in recent years, a number of countries may wish to keep leverage for their PTA negotiations, where commitments that go beyond the General Agreement on Trade in Services (GATS+ commitments) are exchanged as part of the overall trade-off between parties (e.g. against preferential goods access), even though the resulting overall outcome is less economically significant than what the Doha Round can produce, including for these PTA parties.

Another factor to consider is that rules of origin (RoOs) for services do not carry the same potential for distortion as they do for goods trade. RoOs in services PTAs are usually liberal, along the lines of GATS Article V(6),²¹ although there are certain exceptions.²² This reduces the extent of the spaghetti bowl effect (see Section C).

For mode 1 (cross-border supply), PTAs generally focus on the territorial presence of the provider rather than on its nationality or the origin of the service, according origin status to the services provided by entities located in a PTA partner nation. For mode 2 (consumption abroad), the supplier's nationality is unimportant as well; the focus is on the territory in which the service is supplied and consumed. For mode 3 (commercial presence), RoOs typically accord origin status to firms with "substantive business operations" within the PTA region, irrespective of the nationality of business owners. In other words, the only requirement is to establish a legal presence and a certain level of commercial activity in one of the PTA members.²³

In other areas, such as mutual recognition agreements (MRAs) on testing, RoOs are absent. If two nations (for example, the United States and Singapore) sign an agreement whereby the United States accepts products tested in Singapore laboratories, independently of their origin, Singapore can become a regional hub for testing and conformity assessment. Neighbouring countries can ship their products there to be certified before being exported to the United States. The lack of RoOs automatically multilateralizes the bilateral testing MRA, reducing the spaghetti bowl effect (Baldwin et al., 2009).

Competition policy provisions in PTAs are also mostly characterized by non-discrimination (Teh, 2009; Dawar and Holmes, 2010). Competition disciplines usually operate through the use of domestic regulations. While it is not impossible for these regulations to be tailored to favour enterprises originating from PTA partners, it may be costly to do so and becomes even more difficult as the number of PTAs to which a country is a signatory increases. Transparency and in particular the obligation to publish laws promoting competition will provide information that becomes (simultaneously) available to PTA and non-PTA members alike.

The substantive obligations in the competition policy chapters of PTAs generally involve applying competition law or setting up a competition authority. To the extent that enforcement of competition law in a country reduces the market power of domestic incumbents, the prospects of foreign enterprises, whether they are from a PTA member or not, are improved. Carrying out the competition obligations also opens up opportunities for new foreign entrants (either from PTA or non-PTA members) to challenge domestic incumbents.

Moreover, there are positive effects from competition provisions, particularly if they are contained in regional agreements (Dawar and Holmes, 2010). There can be economies of scale from the creation of a regional competition authority. Even if no centralized authority is established, benefits can come from information-sharing and cooperation among enforcement authorities. There could be demonstration effects to other jurisdictions when a competition authority in one PTA member takes action against anti-competitive behaviour. Eventually, more common competition norms and practices within the PTA will prevent regulatory arbitrage, where enterprises locate themselves in a jurisdiction in the PTA with relatively lax competition policy.

Finally, PTAs may directly refer to WTO rules. Lesser (2007) argues that the majority of technical barriers to trade (TBT) provisions in PTAs signed after 1995 reaffirm the parties' rights and obligations under the WTO TBT Agreement and make reference to its objectives.

Furthermore, most transparency commitments included in PTAs are similar in nature to the ones included in the WTO TBT Agreement. Finally, provisions that require parties to provide an explanation in case of non-recognition of standard-related measures and mechanisms supporting further cooperation among parties (e.g. technical assistance, joint standardization) can in fact support and enhance the implementation of the WTO TBT Agreement, supporting the multilateral trading system.

Box E.1: Investment provisions in international agreements: is there a potential for third-party discrimination?

The process of gradual opening of foreign direct investment (FDI) has been the outcome of a multi-layered process combining autonomous MFN investment opening, commitments made in the context of bilateral investment treaties (more than 2,700 to date),²⁴ and only more recently commitments made in PTAs. Despite the progress in investment provisions in PTAs, investment remains overwhelmingly regulated by bilateral investment treaties (BITs).

Investment provisions are typically included in PTAs to foster investment flows between member countries. Some provisions are clearly aimed at protecting investors, without increasing barriers to investment from third countries (Baccini and Dür, 2010). The investment chapters of PTAs normally include absolute standards of treatment providing a minimum level of protection for investors. In many cases, they reflect the actual state of domestic legislation concerning FDI and the level of commitment achieved in earlier BITs. The provisions regarding investment protection are either directly included in the text of the agreement, such as in the agreements signed by the United States, or they are indirectly referred to in agreements providing that investors should be treated in accordance with customary international law (Kotschwar, 2009).

It has been noted, however, that the creation of a PTA may be a source of investment discrimination, whereby potential investors from excluded countries are put at a disadvantage vis-à-vis investors from member countries. This can occur through two channels: one direct and the other one indirect (Baccini and Dür, 2010). First, investment discrimination can result directly from the inclusion of provisions that open up certain sectors for investment only on a preferential basis. All PTAs include relative standards of treatment, namely MFN and national treatment (NT).²⁵ Most recent PTAs, including the ones signed by the United States and the ones among Asian countries, tend to provide both MFN and NT during all phases of the investment (pre- and post-establishment).²⁶ Relative standards of treatment can provide a competitive advantage to investors from member countries vis-à-vis investors from non-member countries, especially in the services sector. For instance, the PTA between Australia and the United States relaxes the requirements for government screening of FDI for US companies investing in Australia (Baccini and Dür, 2010).

Secondly, investment discrimination can result indirectly from discriminatory tariff reductions. Assume firms from countries A and B are engaged in market-seeking FDI in country C. They source inputs domestically, and import them into C at the MFN tariff τ_C . A PTA between A and C, that eliminates tariffs on intermediary inputs from A, creates investment discrimination by putting investors from country B at a competitive disadvantage. However, there is very little empirical evidence on the actual incidence of such discrimination.

The extent of potential investment discrimination also depends on the RoOs included in the PTA. Liberal RoOs in the services sector, for instance, reduce the discriminatory aspects of investment provisions for services providers. There is, however, considerable variation in the strictness of rules of origin for investment across PTAs (Baccini and Dür, 2010). Moreover, one should consider the relation between the provisions of PTAs and the ones contained in BITs.

BITs are traditionally about the protection of investment that is already established in the host countries (DiMascio and Pauwelyn, 2008), guaranteeing compensation in cases of expropriation and repatriation of profits. In the early BITs, what mattered for host country governments was the flexibility to differentiate between national and foreign governments, not so much among foreign investors. Nonetheless, a host country could wish to exercise selective screening over the admission of foreign investors and the terms of their admission as part of its policies to promote national investments. For example, it could wish to offer investment incentives only to certain foreign investors on a discriminatory basis. Despite an improvement in absolute standards of treatment in recent BITs, most of them still do not cover pre-establishment or entry of investments, according NT and/or MFN only once investments are in the country. For this reason, and also because they do not cover tariff reductions, Baccini and Dür (2010) argue that BITs are not very likely to lower PTAs' potential for investment discrimination.

It should be noted that investment discrimination need not imply a reduction in FDI flows from excluded countries into member countries. Tariff discrimination may lead to tariff-jumping FDI (i.e. the establishment of a production facility in a member country, through FDI, in order to avoid a tariff). Studies finding that PTAs attract FDI from third countries, such as te Velde and Bezemer (2006), do not, therefore, provide evidence against PTA-driven investment discrimination.

(b) Several mechanisms supporting further liberalization are found in PTAs

First, PTAs may include “non-party” MFN clauses. These clauses stipulate the extension to current PTA partners of preferences or concessions that member countries may have granted in the past or may grant in the future to third nations.²⁷ In the case of services and government procurement for instance, such provisions ensure that future and more advantageous commitments with other non-member partners should be granted to PTA partners as well (Fink and Molinuevo, 2008). Many PTA procurement provisions require third-party MFN guarantees so as to limit the extent to which preferential procurement is undermined by subsequent PTAs (Baldwin et al., 2009).²⁸

Secondly, there is a tendency to replicate trade-opening rules in PTAs because template approaches are often used for PTAs. The spread of the NAFTA-style telecommunication competition provision is an example. Baldwin et al. (2009) argue that the large number of countries that have included this provision in PTAs suggests that it is progressively becoming a norm. They further argue that harmonization to a single regulatory regime, including a common set of rules that governments apply to private firms in many nations, tends to foster competition and trade and it cannot be considered preferential.

Another example is provided by NAFTA's investment provisions, in particular performance requirements. These provisions have spread in Latin America and beyond. Fifteen countries have agreed never to apply performance requirements against foreign investors from any jurisdiction. Another 36 countries have committed to forgo the application of such requirements, however only against Canadian and US investors (Baldwin et al., 2009).

Along similar lines, as argued by Anderson et al. (2010), “the government procurement provisions of RTAs have made feasible a significant further expansion of the membership of the Government Procurement Agreement (GPA), in the event that parties decide to take this step.”

Thirdly, domino effects (Baldwin, 1993) pointing in the direction of progressive extension of preferential market access might be at play also for deep integration provisions. Consider the example of the GPA. With the EU enlargement from 15 to 25 members, non-EU GPA members started facing more competition in government procurement both in the 15 EU incumbents (from the ten newcomers) and in the ten EU newcomers (from the 15 incumbents). As a reaction to this form of trade diversion, the non-EU GPA members started pressuring the new EU members to join the GPA.²⁹ Similar domino effects can be discerned in all cases in which countries excluded from a PTA find themselves in

a position to adopt similar provisions to the ones adopted by member countries to avoid trade diversion. The implementation by countries in the European Free Trade Association (EFTA) of competition policy norms that mimic the ones of EU countries can be interpreted as a way of ensuring that firms in EFTA countries do not find themselves at competitive disadvantage vis-à-vis firms in the European Union (Baldwin et al., 2009).

(c) The effects of global production sharing

The presence of international fragmentation of production can alter political-economy forces in favour of the adoption of tariff and non-tariff measures that are less discriminatory, and more consistent with the principles of the multilateral trading system. The underlying logic can be explained with the example of the Pan-European Cumulation System (PECS) of rules of origin (Baldwin et al., 2009).

Firms from EU countries started to relocate labour-intensive stages of production in low-wage neighbouring nations from the 1990s. At the same time, the European Union engaged in bilateral agreements with a number of countries both from Central and Eastern Europe and from the Southern Mediterranean. These agreements contained non-harmonized rules of origin, giving rise to a spaghetti bowl effect that restricted firms' ability to source intermediate goods from the cheapest source (Gasiorek et al., 2009).

Moreover, the downsizing of production in the European Union, also due to competition from emerging Asian countries such as China, reduced the number and political influence of EU-based producers of intermediate inputs which benefited from the protectionist effects of the spaghetti bowl. The political economy forces thus turned in favour of harmonizing rules of origin across PTAs, to avoid the cost of different administrative requirements, and permitting diagonal cumulation (i.e. allowing EU final good producers to source inputs from a wider set of countries without fear of losing origin status). This was accomplished with the signing of the PECS in 1997.³⁰

International fragmentation of production may also be a driver of deep integration, and of the multilateral extension of deep provisions. Examples can be found in the field of technical barriers to trade (TBTs), the opening of markets for trade in services and the presence of contingency measures within trade commitments (Baldwin et al., 2009). In TBTs, unbundling of production may help explain the adoption of international standards, at least in parts and components, in industries characterized by global sourcing (e.g. electronics). Concerning the opening of markets for trade in services, offshoring is likely to create an incentive for nations to apply international standards to improve the competitiveness of their own exporters and to make their own services markets more attractive to foreign investors.

Box E.2: Making rules of origin more compatible with the multilateral trading system

It has been argued in this report that rules of origin (RoOs) are likely to strengthen the “spaghetti bowl” effect of PTAs. In view of this adverse effect, various commentators have argued in favour of reforming RoOs, making them more transparent and compatible with the principles of the multilateral trading system (see for instance Cadot and de Melo, 2007).³¹ This box discusses the system of “cap and convergence” proposed by Estevadeordal et al. (2009a) and supported by Baldwin and Thornton (2008), based on the two concepts of “multilateralization” and “convergence”.

“Multilateralization” of RoOs refers to the establishment of multilateral rules that limit the restrictiveness and complexity of RoOs in PTAs (Estevadeordal et al., 2009a). According to the authors, such rules would ensure that “at least the qualifying production methods in a given sector remain relatively similar across export markets”. They claim that multilateralization should ideally be coupled with “convergence”, which is the “unification of multiple overlapping existing RTAs into a single cumulation zone with a new, single list of rules of origin”, like in the European PECS.

The proposed system of “cap and convergence” would increase transparency (one of the key principles of the multilateral trading system). Moreover, it could be subject to WTO discipline. Estevadeordal et al. (2009a) suggest that the non-preferential RoOs currently negotiated at the WTO could serve as the global benchmark with which to compare the overall restrictiveness of RoOs of a given PTA. This would be analogous to the General Agreement on Tariffs and Trade (GATT) Article XXIV restriction on a customs union's external tariff, which caps it at the average of the tariffs previously charged by the members (Baldwin and Thornton, 2008). This provides another strong reason for concluding the long-standing negotiations on non-preferential rules of origin at the WTO.

The rationale for coupling convergence with capping is the following: larger cumulation zones increase trade, especially among the current spoke countries (see Section C). However, observed restrictiveness of RoOs is positively correlated with the size of the cumulation zone, measured as the combined GDP of members (Estevadeordal et al., 2009b). Larger cumulation zones could therefore end up with highly restrictive RoOs that would serve to isolate production within each zone, increasing trade diversion and reducing global efficiency. Trade diversion for third nations justifies involvement of the WTO through multilateralization efforts aimed at limiting the overall restrictiveness of RoOs within a given cumulation zone.

Finally, unbundling of production may create greater support for new multilateral rules on contingency measures, such as safeguards, anti-dumping and countervailing measures, in trade commitments. When firms engage in outsourcing, they prefer measures discouraging the imposition of contingency measures in as many bilateral trading relationships as possible, rather than in any one bilateral trade relationship. This underlies the producer support for the spread of a common or similar set of rules on the application of contingency measures (Baldwin et al., 2009).

(d) Relationship between the WTO and PTA dispute settlement systems

As noted in Section D, the vast majority of PTAs establish some kind of dispute settlement mechanism. Porges (2010) presents a survey of dispute settlement mechanisms in PTAs. She describes these mechanisms as generally falling into the following three types: (i) diplomatic or political mechanisms (such as the Latin American Integration Association, ALADI); (ii) standing tribunals (such as the European Union and the Andean Community); and (iii) referral to ad hoc panels (such as NAFTA and other US FTAs, EU FTAs with Chile, the Republic of Korea and Mexico, the Association of Southeast Asian Nations Enhanced

Dispute Settlement Mechanism, and the Southern Common Market – MERCOSUR). The survey indicates that referral to ad hoc panels is the dominant model for PTA dispute settlement mechanisms. A slightly different classification is used in Ramirez Robles (2006), which classifies the mechanisms as: (i) diplomatic; (ii) quasi-adjudicative; and (iii) “hybrid”, (i.e. mechanisms that have features of both models).

The relationship between the WTO and PTA dispute settlement mechanisms has received considerable attention in the trade literature and some commentators have cautioned about potential risks from the coexistence of dispute settlement mechanisms at different levels (multilateral, regional and bilateral) that may have overlapping jurisdictions. In this subsection, we first describe how the jurisdictions of the WTO and PTA dispute settlement systems may overlap. We then discuss the concerns that have been raised and the recommendations that have been made to reduce the risks of conflict. This is followed by a review of the handful of WTO disputes in which the relationship of the WTO dispute settlement system and a PTA dispute settlement mechanism has been raised as an issue. Finally, we present data on the use of the WTO dispute settlement system by members who are partners in a PTA.

(i) Overlapping jurisdictions

Article 23.1 of the WTO's Dispute Settlement Understanding (DSU) provides that "(w)hen Members seek the redress of a violation of obligations or other nullification or impairment of benefits under the covered agreements or an impediment to the attainment of any objective of the covered agreements, they shall have recourse to, and abide by, the rules and procedures of this Understanding." The Appellate Body has explained that "Article 23.1 lays down a fundamental obligation of WTO Members to have recourse to the rules and procedures of the DSU when seeking redress of a violation of the covered agreements" and "establishes the WTO dispute settlement system as the exclusive forum for the resolution of such disputes"³² (Appellate Body Report, US / Canada – Continued Suspension, para. 371).

Recourse to the WTO dispute settlement system may be had where a WTO member considers that any benefits accruing to it directly or indirectly under the WTO agreements are being impaired by measures taken by another member. Thus, in principle, a WTO member may not have recourse to the WTO dispute settlement system to prosecute an alleged violation of a PTA obligation.³³ The potential for overlapping jurisdiction arises where an issue is regulated both under the WTO and the PTA. Porges (2010) observes that "(a)lmost all PTAs overlap with the WTO Agreement, as both PTAs and the WTO require national treatment and ban quantitative restrictions on trade. Indeed, many PTAs simply incorporate GATT Articles III and XI by reference".

PTAs take different approaches to how they regulate the relationship between their own dispute settlement mechanism and that of the WTO. Porges (2010) identifies the following four approaches. Most PTAs use the "fork-in-the-road" approach which allows the party initiating the dispute to choose between the multilateral or the PTA fora. However, once it has initiated the dispute in one forum, the other option (be it the PTA mechanism or multilateral one) is no longer available to it. (See, for example, the NAFTA and the Colombia-EU PTA.) The NAFTA has a provision (Article 2005(4)) under which the respondent party may require an environmental dispute to be addressed at the regional level, even if the complaining party has initially chosen the multilateral fora. This provision is the subject of a pending dispute between the United States and Mexico (discussed further below). A third approach, which has been used in far fewer PTAs, is to establish the PTA dispute settlement mechanism as the exclusive forum where the matter is one regulated under the PTA. The EU-Mexico and EU-Chile PTAs take the opposite approach, requiring disputes involving a breach of a PTA obligation that are equivalent in substance to a WTO obligation to be brought to the WTO (Porges, 2010).

There are many factors that can influence a country's decision to bring a dispute to one forum over the other where the choice is available to it. Horlick and Piérola (2007) examine a list of factors that may be relevant, including: the type of measure that is being challenged, the applicable law, issues of standing, the time-frame of the proceedings, the remedies available, and the possibility of other countries participating in the dispute as third parties. According to Horlick and Piérola (2007), "the cautious decision-making process to choose the appropriate forum requires weighing and balancing of all these factors in accordance with the ultimate needs and objectives of the complainant".

(ii) Concerns over the coexistence of the WTO dispute settlement system and PTA dispute settlement mechanisms

The concerns raised about the coexistence of the WTO dispute settlement system and the increasing number of dispute settlement mechanisms of PTAs revolve around two sets of issues. The first set of issues derive from the view that the proliferation of PTA dispute settlement mechanisms could undermine the WTO dispute settlement system's status as a public good. Those who hold this view consider that the WTO dispute settlement system has positive externalities for members that are not parties to a particular dispute.

Drahos (2005), for example, notes that the interpretation of the WTO agreements provides greater certainty to WTO rules. He also observes that when a respondent member brings an infringing measure into conformity with its WTO obligations, this will be of benefit to the membership at large because of the MFN principle. Thus, Drahos (2005) proposes that where a dispute concerns a matter regulated under both the WTO and the PTA, it be brought to the WTO. Davey and Sapir (2009) take a different approach and propose that the WTO should require members that do not belong to a PTA to be allowed to participate in the PTA dispute settlement forum as third parties.

The other set of concerns relates to the possibility that a dispute is brought under both the WTO and PTA dispute settlement mechanisms. Here there is concern over the inefficiency of litigating similar matters twice and more importantly about fairness to the respondent party that would have to defend itself in two fora (see Kwak and Marceau, 2006). There is also concern about the more extreme situation in which the WTO and PTA fora issue parallel or consecutive conflicting decisions. One way of reducing the risks of this happening is through stricter jurisdictional clauses in PTAs that preclude a dispute from going to both fora or foreclose bringing a dispute to the WTO over a matter regulated under the PTA (Marceau and Wyatt, 2010). This raises, however, the question of the extent to which such clauses would bind WTO adjudicatory bodies.

At the other extreme, there is the risk that the jurisdiction of the WTO could be gradually “carved out”. For the moment, it appears that few PTAs completely close off access to the WTO dispute settlement, but rather leave the choice of forum to the complaining party. The data discussed below show that an important number of disputes between members that are partners in a PTA continue to be brought to the WTO dispute settlement system. Some could also conceive of making changes to the WTO's Dispute Settlement Understanding to regulate the relationship with dispute settlement fora of PTAs. This approach, however, has not been taken up by WTO members in the negotiations to improve the Dispute Settlement Understanding currently under way.

The academic literature discusses other more complex arrangements that could minimize the risks of conflicts and promote more coherence between the multilateral dispute settlement system and the dispute settlement systems of PTAs. For example, there has been discussion of making exhaustion of PTA dispute resolution procedures a prerequisite to initiation of WTO dispute settlement (see Kwak and Marceau, 2006). Another suggestion is to create a system of preliminary references from the dispute settlement systems of PTAs to the WTO dispute settlement system where the issue concerns the interpretation of provisions of the WTO agreements (Kuijper, 2010).

Commentators have also referred to several international law doctrines that could be used to avoid or resolve conflicts between overlapping jurisdictions.³⁴ The doctrine of *res judicata* or finality refers to situations where a matter has been decided by a competent adjudicative body barring its relitigation in subsequent proceedings. *Lis Alibi Pendens*, for its part, refers to parallel proceedings and is a principle pursuant to which once a dispute is pending in one forum, it cannot be brought before another forum. However, for these doctrines to apply, there must be an “inextricable link” between the proceedings, which usually is understood as an identity of the parties and of the issues (Shany, 2005). Thus, application of the doctrines can be avoided in certain circumstances.³⁵

Under the principle of comity or *forum non conveniens*, an adjudicative body could seek to avoid exercising jurisdiction over a dispute if it considers that it would be more appropriate for another tribunal to exercise jurisdiction. There is considerable debate as to the applicability of these principles to resolve a potential conflict of jurisdiction involving the WTO dispute settlement system and a PTA dispute settlement mechanism (see Kwak and Marceau, 2006). The WTO dispute settlement system is available to WTO members as of right; they do not have to seek leave to start the process under the current rules. Thus, some would consider that applying these prerequisites could only be effected through a change in the rules.

As discussed below, questions about the relationship between the WTO dispute settlement system and PTA dispute settlement mechanisms have come up in only a handful of WTO disputes. It should be noted that so far concerns over potential conflicts have not materialized to the extent that some had feared.³⁶ This is not to say that it is not important to think through issues arising from the coexistence of the multilateral and PTA settlement systems.

(iii) Issues relating to PTA dispute settlement raised in WTO disputes

As noted earlier, issues touching on the relationship of the WTO dispute settlement system and PTA dispute settlement mechanisms have come up in a handful of WTO disputes. In *Argentina – Poultry*, Argentina argued that Brazil was “estopped” from pursuing the dispute at the WTO because Brazil had first challenged the anti-dumping measures in the MERCOSUR forum. The panel rejected Argentina's argument, noting that there was “no evidence on the record that Brazil made an express statement that it would not bring WTO dispute settlement proceedings in respect of measures previously challenged through MERCOSUR”. Moreover, the panel found that:

"In particular, the fact that Brazil chose not to invoke its WTO dispute settlement rights after previous MERCOSUR dispute settlement proceedings does not, in our view, mean that Brazil implicitly waived its rights under the DSU. This is especially because the Protocol of Brasilia, under which previous MERCOSUR cases had been brought by Brazil, imposes no restrictions on Brazil's right to bring subsequent WTO dispute settlement proceedings in respect of the same measure. We note that Brazil signed the Protocol of Olivos in February 2002. Article 1 of the Protocol of Olivos provides that once a party decides to bring a case under either the MERCOSUR or WTO dispute settlement forums, that party may not bring a subsequent case regarding the same subject-matter in the other forum. The Protocol of Olivos, however, does not change our assessment, since that Protocol has not yet entered into force, and in any event it does not apply in respect of disputes already decided in accordance with the MERCOSUR Protocol of Brasilia. Indeed, the fact that parties to MERCOSUR saw the need to introduce the Protocol of Olivos suggests to us that they recognised that (in the absence of such Protocol) a MERCOSUR dispute settlement proceeding could be followed by a WTO dispute settlement proceeding in respect of the same measure." (Panel Report, *Argentina–Poultry*, para. 7.38)

Alternatively, Argentina argued that if Brazil were entitled to bring the dispute to the WTO, "then the Panel is bound by the earlier MERCOSUR ruling on the measure at issue in this case" as "the earlier MERCOSUR ruling is part of the normative framework to be applied by the Panel as a result of Article 31.3(c) of the Vienna Convention". This argument was also rejected by the panel, which explained its reasons as follows:

"Rather than concerning itself with the interpretation of the WTO agreements, Argentina actually argues that the earlier MERCOSUR Tribunal ruling requires us to rule in a particular way. In other words, Argentina would have us apply the relevant WTO provisions in a particular way, rather than interpret them in a particular way. However, there is no basis in Article 3.2 of the DSU, or any other provision, to suggest that we are bound to rule in a particular way, or apply the relevant WTO provisions in a particular way. We note that we are not even bound to follow rulings contained in adopted WTO panel reports, so we see no reason at all why we should be bound by the rulings of non-WTO dispute settlement bodies." (Panel Report, *Argentina – Poultry*, para. 7.41)

The panel report in that case was not appealed.

The issue also arose in *Mexico – Taxes on Soft Drinks*, where the United States was challenging certain tax measures and book-keeping requirements imposed by Mexico on soft drinks and other beverages that used sweeteners other than cane sugar. Mexico argued that the WTO dispute was "inextricably linked to a broader dispute regarding access of Mexican sugar to the United States' market under the NAFTA." Mexico requested the panel to decline jurisdiction over the dispute. According to Mexico, WTO panels have "implied jurisdictional powers" and these include "the power to refrain from exercising substantive jurisdiction in circumstances where 'the underlying or predominant elements of a dispute derive from rules of international law under which claims cannot be judicially enforced in the WTO, such as the NAFTA provisions' or 'when one of the disputing parties refuses to take the matter to the appropriate forum'."

The Appellate Body affirmed the panel's finding that, under the DSU, it had no discretion to decline to exercise its jurisdiction in that case. Before reaching this finding, however, the Appellate Body noted that Mexico had not argued that the subject matter nor the respective positions of the parties were identical in the NAFTA and WTO disputes and Mexico had not identified a legal basis that would allow it to raise, in a WTO dispute settlement proceeding, the market access claims Mexico was pursuing under NAFTA. Furthermore, it was undisputed that no NAFTA panel

had yet decided the "broader dispute" to which Mexico had alluded and Mexico had acknowledged that the "exclusion clause" of Article 2005(6) of NAFTA had not been exercised. Thus, the Appellate Body did not "express any view on whether a legal impediment to the exercise of a panel's jurisdiction would exist in the event that features such as those mentioned above were present." (Appellate Body Report, *Mexico – Taxes on Soft Drinks*, paras. 44-57)

Another case that has been discussed in the literature is a dispute between Canada and the United States over the imposition by the latter of anti-dumping and countervailing duties on imports of softwood lumber from the former. Various aspects of this dispute were the subject of litigation in both the WTO and NAFTA. At one point an injury determination made by the US investigating authority was found to be lacking by a NAFTA panel, while a WTO panel upheld it. The conflict nevertheless was eventually resolved when the decision of the WTO panel was eventually overturned upon review by the Appellate Body (Hillman, 2009).³⁷

The relationship between the dispute settlement mechanisms of NAFTA and the WTO has surfaced again in a more recent dispute between Mexico and the United States. In 2009, Mexico requested that a WTO panel examine the consistency of certain requirements concerning the labelling in the United States of tuna products as "dolphin safe" (WT/DS381/4). In response, the United States invoked Article 2005(4) of NAFTA, which it considers to require that in certain types of disputes, if the defending party makes such a request, NAFTA rather than any other forum should be the sole venue of the dispute. The United States initiated a dispute under NAFTA challenging Mexico's decision not to move the dispute from the WTO to NAFTA, as requested by the United States (United States Trade Representative (USTR), 2010). Both proceedings are presently ongoing.

(iv) WTO disputes between WTO members that are partners in a PTA

In this subsection, we examine data on WTO disputes between WTO members who are partners in a PTA. Data on the number of disputes refer to requests for consultations, which is the first step under the WTO dispute settlement procedures. The data concern participation by WTO members (who are PTA partners) as complainants and respondents, and does not include participation as third parties. Moreover, the exercise looks only at WTO dispute settlement and does not examine whether the disputes could have been brought under the PTA dispute settlement mechanism. Certainly a more complete analysis would require looking at whether the disputes could have been taken to the PTA dispute settlement mechanism. Notwithstanding this limitation, the data provide some useful insights.

First, the data show that WTO members that are partners in a PTA continue to have frequent recourse to the WTO dispute settlement system to resolve trade disputes (the methodology employed in Tables E.1 to E.3 and Figure E.1 is explained in Box E.3). As illustrated in Table E.1, 82 of the 443 disputes brought to the WTO up to 2010 were between complainant and respondent members who at the time were partners in a PTA. Disputes between PTA partners represent 19 per cent of all disputes. The ratio is higher where the complainant is a developing country (28 per cent) than when it is a developed country (13 per cent). This is probably explained by the fact that the United States, the European Union, Japan and China do not have PTAs between them, and they have been parties in an important number of disputes.

The largest share of the disputes between PTA partners brought to the WTO is made up of disputes between parties to NAFTA, but there also have been WTO disputes between WTO members that are partners in other PTAs, as illustrated in Figure E.1.

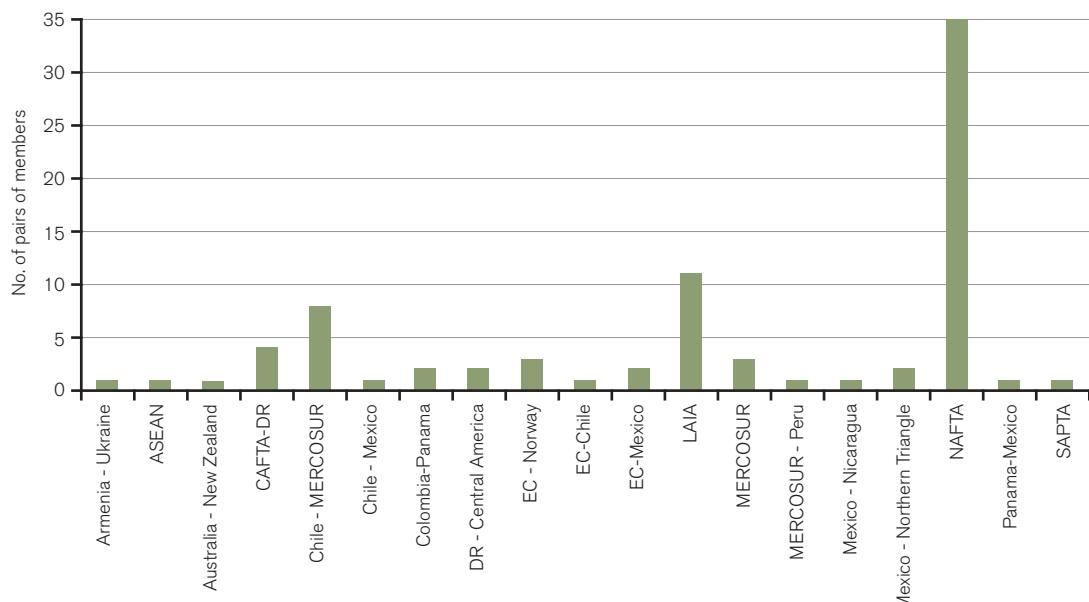
As depicted in Table E.2, the share of WTO disputes between PTA partners increased steadily since 1995, reaching a peak of 50 per cent in 2005. Since then, the share has remained around 30 per cent, although it was significantly below this number in 2009. The steady increase in the share of disputes between PTA partners may be partly a reflection of the negotiation of new PTAs, but is more likely a reflection of the diversification of parties making use of the WTO dispute settlement system. An interesting point that

Table E.1: Frequency of requests for consultations, by development level and existence of PTAs in force between the parties, 1995-2010 (Total number of pairs of members/pairs with a PTA in force)

| DEFENDANT | COMPLAINANT | | | |
|--------------|-----------------|-----------------|--------------|-----------------|
| | Developed | Developing | LDC | TOTAL |
| Developed | 154 / 24 | 115 / 10 | 0 / 0 | 269 / 34 |
| Developing | 102 / 8 | 71 / 39 | 1 / 1 | 174 / 48 |
| LDC | 0 / 0 | 0 / 0 | 0 / 0 | 0 / 0 |
| TOTAL | 256 / 32 | 186 / 49 | 1 / 1 | 443 / 82 |

Source: WTO Secretariat based on Legal Division's and RTA's databases. The table takes account of 419 requests for consultations under the WT/DS document series as of 31 December 2010, which account for a total of 443 pairs of members (i.e. complainant-defendant). See Box E.3.

Figure E.1: PTAs in force at the time of the request for consultations, 1995-2010



Source: WTO Secretariat.

Table E.2: Requests for consultations, by year and subsequent procedures, 1995-2010

| Year of request for consultations | Request for consultations | | | | With a panel established | | | |
|-----------------------------------|----------------------------------|------------------------|-------------------------|-------------|--------------------------|------------------------|-------------------------|-------------|
| | Total requests for consultations | Total pairs of members | Pairs w/ a PTA in force | | Total panels established | Total pairs of members | Pairs w/ a PTA in force | |
| | | | No. | Share (%) | | | No. | Share (%) |
| 1995 | 22 | 25 | 1 | 4.0 | 12 | 12 | 0 | 0.0 |
| 1996 | 42 | 50 | 3 | 6.0 | 19 | 24 | 1 | 4.2 |
| 1997 | 47 | 47 | 2 | 4.3 | 20 | 20 | 1 | 5.0 |
| 1998 | 43 | 43 | 3 | 7.0 | 15 | 15 | 1 | 6.7 |
| 1999 | 31 | 35 | 4 | 11.4 | 17 | 17 | 1 | 5.9 |
| 2000 | 30 | 30 | 7 | 23.3 | 11 | 11 | 3 | 27.3 |
| 2001 | 27 | 36 | 12 | 33.3 | 11 | 20 | 7 | 35.0 |
| 2002 | 34 | 34 | 7 | 20.6 | 23 | 23 | 5 | 21.7 |
| 2003 | 28 | 28 | 9 | 32.1 | 16 | 16 | 4 | 25.0 |
| 2004 | 20 | 20 | 5 | 25.0 | 9 | 9 | 1 | 11.1 |
| 2005 | 12 | 12 | 6 | 50.0 | 5 | 5 | 1 | 20.0 |
| 2006 | 18 | 18 | 6 | 33.3 | 13 | 13 | 4 | 30.8 |
| 2007 | 15 | 15 | 5 | 33.3 | 7 | 7 | 4 | 57.1 |
| 2008 | 17 | 17 | 4 | 23.5 | 10 | 10 | 4 | 40.0 |
| 2009 ¹ | 16 | 16 | 2 | 12.5 | n.a. | n.a. | n.a. | n.a. |
| 2010 ¹ | 17 | 17 | 6 | 37.5 | n.a. | n.a. | n.a. | n.a. |
| TOTAL | 419 | 443 | 82 | 18.5 | 188 | 202 | 37 | 18.3 |

Note: The numbers for each row were calculated for the year in which the request for consultations was made (i.e. they always refer to the same group of requests for consultations made in that year and not to the number of panels established during a particular year).

¹ The figures relating to the number of panels established for the period 2009-2010 were not included because they are not comparable (i.e. due to ongoing procedures).

Source: WTO Secretariat based on Legal Division's and RTA's databases. See Box E.3.

comes out of Table E.2 is that the share of disputes between PTA partners that advance to the panel stage (45 per cent) is very close to the overall average, indicating that a dispute between PTA partners is just as likely to be settled at the consultations stage as a dispute between non-PTA partners.

Table E.3 compares the number of times a particular WTO agreement has been the subject of a dispute between PTA partners with the number of times it has been invoked in all disputes. There are significant differences with respect to some of the agreements, though it may be difficult to draw conclusions in many cases given the small number of disputes involving certain agreements. The most frequently cited agreements in disputes between PTA partners are the GATT 1994, the Anti-dumping Agreement, the

Subsidies and Countervailing Measures (SCM) Agreement, the Agreement on Safeguards, and the Agreement on Agriculture. Interestingly, subsidy and safeguards disputes make up a larger share of disputes between PTA partners (intra-PTA) than of overall disputes, while intra-PTA disputes involving the GATT 1994 represent a lower share than overall.

Porges (2010) offers some possible explanations for the continued use of WTO dispute settlement by members that are partners in a PTA: the WTO's "familiar institutions" and "unblockable" dispute settlement procedures; the possibility to suspend MFN tariffs and other WTO obligations (particularly where the PTA's margin of preference is low); the broader pool of neutral panellists; the broader issue scope of the WTO; the possibility of forming alliances; access to assistance

Table E.3: WTO Agreements cited in the requests for consultations, 1995-2010

| WTO Agreement | No. of references to the Agreements ¹ | | In requests where a pair of members has a PTA in force | | |
|--|--|--------------------------------|--|---|--|
| | Frequency | Share of references (per cent) | Frequency | Share of references in disputes between PTA partners (per cent) | Share of overall references (per cent) |
| GATT 1994 (<i>adjusted</i>) ² | 227 | 31.0 | 31 | 23.7 | 13.7 |
| Subsidies and Countervailing Measures | 86 | 11.7 | 16 | 12.2 | 18.6 |
| Anti-dumping | 84 | 11.5 | 27 | 20.6 | 32.1 |
| Agriculture | 66 | 9.0 | 12 | 9.2 | 18.2 |
| TBT | 41 | 5.6 | 7 | 5.3 | 17.1 |
| Safeguards | 38 | 5.2 | 15 | 11.5 | 39.5 |
| SPS | 37 | 5.0 | 6 | 4.6 | 16.2 |
| Import Licensing | 34 | 4.6 | 4 | 3.1 | 11.8 |
| TRIPS | 29 | 4.0 | 1 | 0.8 | 3.4 |
| TRIMs | 27 | 3.7 | 1 | 0.8 | 3.7 |
| GATS | 22 | 3.0 | 3 | 2.3 | 13.6 |
| ATC | 16 | 2.2 | 1 | 0.8 | 6.3 |
| Customs Valuation | 15 | 2.0 | 5 | 3.8 | 33.3 |
| Rules of Origin | 7 | 1.0 | 2 | 1.5 | 28.6 |
| Gov. Procurement | 4 | 0.5 | 0 | 0.0 | 0.0 |
| TOTAL | 733 | 100 | 131 | 100 | 17.9 |

¹ References to the DSU and the Marrakesh Agreement Establishing the WTO were not taken into account.

² See Box E.3 for a description of the adjustment methodology used.

Source: WTO Secretariat.

from the Advisory Centre on WTO Law; the multilateral surveillance process; the institutionalized framework for taking countermeasures; and the fact that the cost of WTO dispute settlement is included in a member's annual assessment, while in most PTAs, the parties pay the panellists, or pay for the cost of the tribunal.

(e) Caveats: mechanisms generating negative systemic effects

Some of the deep provisions contained in new-era PTAs can contain discriminatory aspects, creating a tension with the multilateral trading system. The most prominent examples are the area of contingency measures (anti-dumping and safeguards).

(i) *Discriminatory aspects in anti-dumping rules in PTAs*

Recent research suggests that the risk of trade diversion may extend beyond tariffs. Prusa and Teh

(2010) uncover what they call a protection analogue to the trade creation-trade diversion impact of PTAs in the area of anti-dumping. Anti-dumping provisions in PTAs result in members being spared from anti-dumping actions ("protection reduction") while non-PTA members face even greater anti-dumping scrutiny ("protection diversion").

The idea that PTAs may have this distortionary effect is not new. In a series of papers, Bhagwati (1992: 1993) and Bhagwati and Panagariya (1996) conjecture that due to its "elastic" and selective nature, anti-dumping can increase the risk of protection diversion from PTAs. According to their explanation, contingency measures are driven by import volume. Who is targeted in the anti-dumping petition is entirely up to the discretion of the domestic industry.

If anti-dumping provisions make PTA members more difficult to sanction, the domestic industry will simply target other sources. As a result, we might see an increase in anti-dumping protection directed towards

Box E.3: Methodology

A Data sources

The tables and graphs in this section are based on a specialized dataset that was developed based on databases maintained by the Legal Affairs division and the Regional Trade Agreements unit of the WTO. The dataset includes a total of 419 requests for consultations submitted under the WT/DS document series as of 31 December 2010.

B "Pairs" of members (i.e. complainant-defendant)

Seven requests for consultations involved more than one complainant (i.e. DS16, DS27, DS35, DS58, DS158, DS217 and DS234), which meant it was not possible to establish whether a PTA was in force between the parties without creating a bias in the figures. For this reason, the 419 requests for consultations as of 31 December 2010 were re-expressed as 443 pairs of complainants-defendants. Figures relating to the prevalence of a PTA at the time of filing the request for consultations were derived on this basis.

C Adjusting the references to the GATT 1994

Santana and Jackson (2011) noted that, because complainants tend to cite a large number of agreements and provisions in their requests for consultations under the DSU, frequency counts of provisions cited tend to overestimate the importance of the GATT 1994. This is mainly because references to certain GATT Articles tend to be subsidiary in nature when made together with other "specialized" agreements or even Articles in the GATT. For example, the complainant in a typical anti-dumping case will normally claim that the defendant is in breach of provisions in the Agreement on Anti-dumping, Article VI of the GATT, and that the anti-dumping duty imposed is in violation of the tariff binding (Article II:1(b) of the GATT) and the MFN clause (Article I of the GATT).

In spite of the four Articles cited, the GATT normally plays a secondary role in these disputes. Similarly, a request for consultations citing both Articles II and XIX of the GATT is almost certainly a case about safeguards and not about tariff bindings. To minimize the incidence of those secondary references, and following the principle of *lex specialis*, Santana and Jackson proposed a methodology that does not take into account references to certain Articles of the GATT 1994 when cited together with other provisions. The adjustments are as follows:

1. Article I was excluded when a reference was made in the same dispute to the Agreements on Anti-dumping, Safeguards, SCM (related to countervailing duties - CVD), sanitary or phytosanitary measures (SPS), or technical barriers to trade (TBT), or when a reference was made to Article VI of the GATT (i.e. CVD or anti-dumping related).
2. Article II was excluded when a reference was made in the same dispute to the Agreements on Anti-dumping, Customs Valuations, Safeguards or SCM (CVD related), or retaliation under Article 22 of the DSU. It was also excluded when a reference was made to GATT Articles VI (i.e. CVD or anti-dumping related) or XIX (safeguards).
3. Article III was excluded when a reference was made in the same dispute to either the SPS or the TBT Agreements.
4. Article VI was excluded when a reference was made in the same dispute to Anti-dumping or SCM (CVD related) Agreements.
5. Article XI was excluded when a reference was made in the same dispute to the Safeguards, SPS, TBT Agreements, as well as GATT Articles XII and XIX.
6. Article XVI was excluded when a reference was made in the same dispute to the SCM Agreement (related to the provision of subsidies), or to Articles 3, 6-11 of the Agreement on Agriculture.
7. Article XIX was excluded when a reference was made in the same dispute to the Safeguards Agreement

On the basis of an adjusted dataset, an agreement is considered "cited" if one or more of its provisions are cited in a specific request for consultations.

non-PTA members when in fact the injury to domestic industry mostly stems from imports from other PTA members.³⁸ The work by Prusa and Teh (2010) provides the first empirical support for this conjecture.³⁹ Their findings are especially relevant given the prominence of anti-dumping in the trade policy arena. Anti-dumping has long been the contingency measure of choice and its prominence has increased over the past two decades. The number of countries using anti-dumping has increased five-fold and the annual number of anti-dumping initiations has more than doubled (Prusa, 2005).

Figure E.2 shows a discernible difference in the pattern of anti-dumping activity of countries before and after entering into a PTA. Measuring time relative to the year the PTA was enacted, year zero is the year the PTA was established, year $t - 1$ is the year before while year $t + 1$ is the year after, etc. Notice that during the years prior to the establishment of the PTA enactment, intra-PTA anti-dumping activity is growing. The number of anti-dumping initiations drop sharply in the year of establishment ($t = 0$) and remain much lower in subsequent years as compared to the years prior to enactment. On average, during the ten years prior to establishment there were 29.5 anti-dumping cases per year and during the ten years following establishment there were just 23.6 cases per year.

There is another way to show how PTA membership changes the pattern of anti-dumping activity. Table E.4 depicts anti-dumping filings when countries are distinguished between (i) those who are members of a PTA and (ii) those who are not, and the time period is distinguished between pre- and post-PTA establishment. As seen, countries file about 58 per cent of anti-dumping cases against non-PTA countries

Table E.4: Anti-dumping initiations by PTA status

| | Target country | |
|----------|-----------------|-------------|
| | Non-PTA country | PTA country |
| Pre-PTA | 506 | 370 |
| | 58% | 42% |
| Post-PTA | 3,554 | 375 |
| | 90% | 10% |

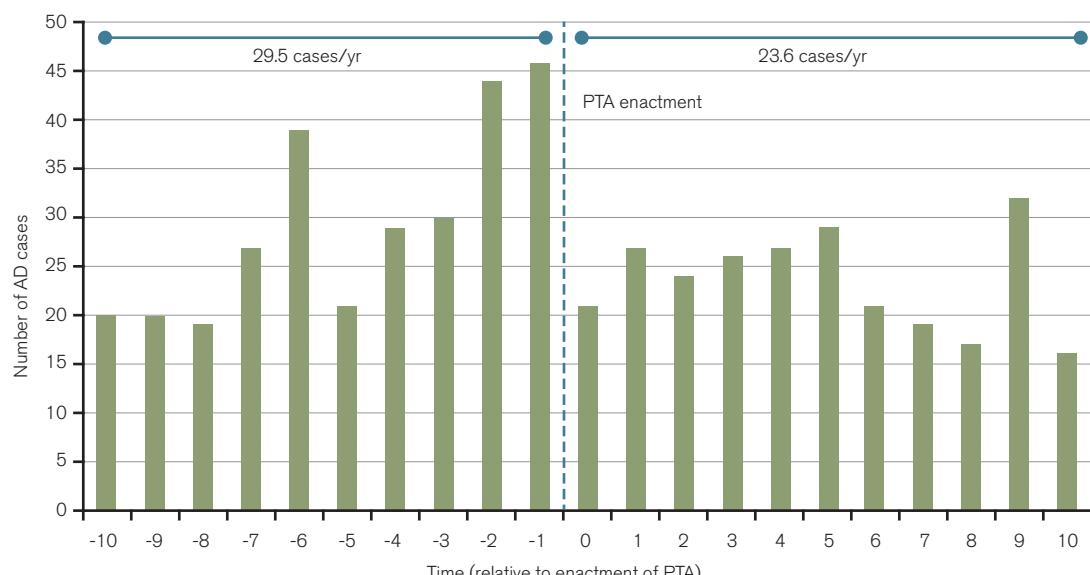
Source: Prusa and Teh (2010).

prior to PTA enactment but a remarkable 90 per cent following enactment. Again, this strongly suggests that PTAs are changing the pattern of protection.

While illustrative, are these patterns statistically significant (unlikely to have occurred by chance)? Furthermore, there may be other provisions in PTAs that can explain the pattern in the anti-dumping data. PTAs often liberalize investment, thus increasing the level of FDI flows between PTA partners. The fall in anti-dumping activity between PTA members might thus arise because imports are sourced from multinational affiliates. Another concern is that the results may be entirely driven by the big users (European Union and the United States) or targets (China) of anti-dumping.

Prusa and Teh's econometric analysis (a method known as difference-in-difference regression) establishes that the patterns do not arise simply from chance.⁴⁰ In addition, they find that PTAs cause as much as a 60 per cent reduction in anti-dumping disputes between PTA members. This result is not solely driven by those PTAs that have abolished anti-dumping (for whom intra-PTA anti-dumping activity is

Figure E.2: Intra-PTA anti-dumping initiations



Source: Prusa and Teh (2010).

essentially eliminated). When they only look at those PTAs that have adopted PTA-specific anti-dumping rules, they find a 33-55 per cent reduction in intra-PTA anti-dumping activity. They find no significant change in anti-dumping activity for PTAs without PTA-specific anti-dumping rules.

Their econometric estimates also suggest that PTAs cause a 10-30 per cent increase in the number of anti-dumping filings against non-PTA members. Taking the protection reduction and diversion results together, they find that the reduction in intra-PTA activity is more than offset by the increase in activity against the far larger set of non-PTA members. Overall, they conclude that PTAs increase the number of anti-dumping filings by perhaps as much as 10 per cent.

Their results appear to be extremely stable. Even when they excluded the EU, NAFTA and China individually from their analysis, the results were essentially unaffected. To take account of the possible effects of other PTA provisions, they included FDI flows and a measure of the investment liberalization in each PTA based on work done by Dee et al. (2006) and Dee (2008). While investment provisions in PTAs reduce the incidence of anti-dumping disputes, they continued to find that anti-dumping rules remain a significant independent explanation for the reduction in intra-PTA anti-dumping cases.

(ii) Discriminatory aspects in safeguard rules in PTAs

There are typically two types of safeguard actions which are covered in PTAs: “bilateral” and “global” safeguard actions.⁴¹ Bilateral safeguard actions are meant to apply only to the trade of other PTA members. They provide a temporary escape for members when, as a result of undertaking the commitments under the agreement, increased imports from PTA partners result in serious injury to the domestic industry. Global safeguard actions, on the other hand, are triggered under GATT Article XIX (Emergency Action on Imports of Particular Products) and the Agreement on Safeguards. Multilateral rules require that any safeguard measures be applied on a non-discriminatory basis. Typically, the PTA provisions on global safeguard actions specify the conditions under which PTA partners could be excluded from multilateral safeguard actions invoked by a member.

While most of these PTAs state that their safeguard provisions are in accordance with or do not affect their members' rights and obligations under the multilateral agreements, many go on to exclude the imports of PTA partners from global safeguard actions.⁴²

The conditions under which imports from PTA members can be excluded from a global safeguard action are if those imports do not account for a substantial share of total imports and if they do not

contribute to serious injury to the domestic industry or the threat thereof.⁴³

The Agreement on Safeguards requires that safeguard measures be applied to all imports irrespective of source (non-discrimination). Thus, the exclusion of PTA partners from a safeguard action poses a potential conflict between regional and multilateral rules. This conflict has been addressed in a number of WTO dispute cases (*Argentina–Footwear*, *United States–Wheat Gluten*, *United States–Line Pipe* and *United States–Steel*). In these cases, the investigating authority had included imports from all sources in making the determination that imports were entering in such increased quantities so as to cause serious injury to the domestic industry. However, instead of applying safeguard measures to all imports irrespective of their source, the country invoking the safeguard action excluded its PTA partners.⁴⁴ In all four cases, the Appellate Body has ruled against the WTO member which included its PTA partners in the safeguard investigation but excluded them in the application of the safeguard measure.

The key concept that underlines all these cases has been called “parallelism”.⁴⁵ In brief, parallelism prohibits any differences in the application of safeguards measures.⁴⁶ In the case of PTAs, parallelism means that when a WTO member has conducted a safeguard investigation considering imports from all sources, it cannot, subsequently, without any further analysis, exclude imports from PTA partners from the application of the resulting safeguard measure. In order to be able to exclude imports from PTA partners, the investigating authority must establish explicitly that imports from non-PTA sources alone caused serious injury or threat of serious injury to the domestic industry. The investigating authority, in its causality analysis, should further ensure that the effects of the excluded (PTA) imports are not attributed to the imports included in the safeguard measure.

While the elaboration of the principle of parallelism by the Appellate Body in these four cases has clarified one issue, WTO jurisprudence has not provided a definitive ruling to what extent GATT Article XXIV could be relied on by a WTO member to exclude PTA partners from the application of a safeguard measure.⁴⁷ The provisions excluding PTA partners from global safeguard actions raises concerns about increased discrimination against non-members and trade diversion. Although WTO dispute settlement panels have ruled against excluding PTA partners from safeguard measures if imports from those PTA partners had been included in the investigation, they appeared to have done so on quite narrow grounds – on the lack of parallelism in the application of safeguard measures. So far the Appellate Body has not ruled on whether such exclusions will be justifiable under GATT Article XXIV. Conceivably, under a

different set of circumstances, exclusion of PTA partners from safeguard measures could pass muster.

(iii) Other mechanisms

The non-discriminatory nature of deep provisions might in principle create adverse systemic effects, namely political-economy and third-country resistances to further multilateral liberalization. If preferential liberalization is non-discriminatory in nature, it might be opposed by political-economy forces, because higher market shares (and profits) in the other member's market might be more than offset by the loss of domestic profits vis-à-vis firms from partners and non-members.⁴⁸

Secondly, the non-discriminatory nature of deep provisions may undermine the willingness of developing countries to engage in multilateral negotiations with developed countries with the objective of exchanging deep regulatory commitments with market access for goods (Chaussour and Maur, 2011). This is because preferential tariffs are bound to be eroded over time, whereas regulatory commitments are both permanent and MFN; thereby they cannot be used as bargaining chips over time and vis-à-vis different countries.

Thirdly, it has been argued that lock-in effects of regulatory harmonization within a given PTA may have negative systemic effects (World Trade Organization (WTO), 2007). Competing PTAs with incompatible regulatory structures and standards may lock-in members. This can constitute a threat to the multilateral trading system for two reasons. First, it undermines the principles of transparency and predictability of regulatory regimes. Secondly, it may hinder further multilateral liberalization. A recent study (Piermartini and Budetta, 2009) has found evidence of distinct "families" of PTAs with differentiated rules on technical barriers to trade. The study shows that a number of regional arrangements that have the European Union as the hub include provisions to harmonize the standards of the spoke partner country to EU standards. To the extent that the adjustment to European standards requires making investments, these provisions may lock-in a country to the regional arrangement, thus making movement towards multilateral liberalization costly.

Finally, it has been argued above that third-party MFN clauses have the potential to reduce the discriminatory nature of preferential agreements. However, a variety of PTAs do not contain third-party MFN clauses (e.g. China – ASEAN). In this case, the provisions of the agreement effectively discriminate vis-à-vis third countries, and there is the risk of discriminatory treatment between different parties of different PTAs signed by the same country (Houde et al., 2007). In their services and investment chapters, other PTAs include sectoral exceptions to the automatic extension

of the third-party MFN treatment. Excluded sectors do not therefore automatically benefit from the better treatment of future agreements. However, as reported by Houde et al., very few sectors are concerned.

Moreover, as argued by Adlung and Morrison (2010), a number of agreements exclude some of the potentially most distortive types of intervention from third-party MFN obligations (e.g. all subsidies are excluded under the Australia-United States Free Trade Agreement – AUSFTA). The Economic Partnership Agreements (EPAs) that the EU concluded with African, Caribbean and Pacific (ACP) countries contain MFN clauses requiring that, if an ACP country concludes a subsequent PTA with a major trading economy other than the EU, such as the United States or Brazil, the EU should automatically receive the benefits conceded in such PTA. As argued by Pauwelyn (2009), inclusion of this clause in recent EPAs is controversial. It could in fact have a chilling effect on third countries qualifying as "major trading economies" that were previously interested in concluding a PTA with ACP countries.

3. Regionalism and the WTO: historical perspective

The MFN principle is at the core of the multilateral trading system. Nevertheless, from its very beginnings, the multilateral trading system has allowed some space for member countries to grant each other more preferential treatment under free trade areas or customs unions. As one commentator has put it, "(t)he real thrust of the GATT had been to control and contain discrimination rather than eliminate it" (Hudec, 1990). The rules applicable to free trade areas and customs unions under Article XXIV of the GATT have been incorporated into the WTO with little change and the many interpretative questions that arise under that provision remain intensely debated today.⁴⁹ Although there are still many observers who would like to see the rules clarified and strengthened, recent efforts have focused on improving transparency.

(a) The origins of the GATT

Preferential trading arrangements were one of the main issues of concern of some of the countries that participated in the negotiations for the establishment of an International Trade Organization (ITO), which eventually became the basis for the GATT. In particular, some countries saw the ITO negotiations as an opportunity to dismantle certain existing preferential trade arrangements, such as the preferences between territories belonging to the British Commonwealth, while the British seemed willing to dismantle these preferences only if they obtained meaningful access to other markets, particularly the United States (Hudec, 1990). Indeed, several commentators note that this was an important objective for the United States, which made a proposal to

allow preferences only between territories that formed part of a customs union and later accepted interim arrangements that would lead to a customs union. A group of developing countries that included Syria and several Latin American countries sought to widen the exception to include free trade areas.

The language adopted at the Havana Conference of 1947-48, which was later incorporated into the GATT, allowed for free trade areas and customs unions, as well as interim arrangements leading to their formation. Several explanations have been put forward by commentators to explain the eventual acceptance of preferences under free trade areas, especially by the United States, which initially had opposed them.

In a recent historical study, Chase (2006) summarizes the reasons that were traditionally given for the acceptance of free trade areas within the framework of the GATT: the need to compromise to reach agreements (Viner, 1950); encouraging a consolidation of the Commonwealth preferences (Odell and Eichengreen, 1998); encouraging European integration (Bhagwati, 1991; Odell and Eichengreen, 1998); or pressure from certain developing countries (Haight, 1972; Mathis, 2002; World Trade Organization (WTO), 1995). Chase (2006) disagrees with these traditional views and, based on his archival research, suggests that the United States and Canada were secretly negotiating a bilateral free trade agreement and the United States changed its position on free trade areas to accommodate this eventuality. According to Chase (2006), the United States did not have to make a new proposal because it saw an opportunity in the proposal allowing free trade areas submitted by Lebanon and Syria.

Article XXIV of the GATT recognizes “the desirability of increasing freedom of trade by the development, through voluntary agreements, of closer integration”, yet cautions “that the purpose of a customs union or of a free-trade area should be to facilitate trade between the constituent territories and not to raise barriers to the trade of other contracting parties with such territories.” Article XXIV:5 establishes that the provisions of the GATT “shall not prevent, as between the territories of contracting parties, the formation of a customs union or of a free-trade area or the adoption of an interim agreement necessary for the formation of a customs union or of a free-trade area”.

For purposes of Article XXIV, a customs union is understood as “the substitution of a single customs territory for two or more customs territories, so that (i) duties and other restrictive regulations of commerce (except, where necessary, those permitted under Articles XI, XII, XIII, XIV, XV and XX) are eliminated with respect to substantially all the trade between the constituent territories of the union or at least with respect to substantially all the trade in products originating in such territories, and, (ii) ... substantially the same duties

and other regulations of commerce are applied by each of the members of the union to the trade of territories not included in the union”. A free-trade area is “a group of two or more customs territories in which the duties and other restrictive regulations of commerce (except, where necessary, those permitted under Articles XI, XII, XIII, XIV, XV and XX) are eliminated on substantially all the trade between the constituent territories in products originating in such territories”.

Article XXIV sets out additional conditions that must be met by customs unions and free trade areas. Generally speaking, in both cases, the duties and other regulations applied upon formation may not be higher or more restrictive than previously. In the case of customs unions, the duties or regulations may not be “on the whole” higher than the “general incidence” of the duties and regulations of commerce previously applicable in the constituent territories. Interim agreements for the formation of a customs union or free trade area must include “a plan and schedule” for the formation of the customs union or free trade area “within a reasonable length of time”. Certain notification requirements also apply under Article XXIV. Furthermore, Article XXIV includes provisions on frontier traffic (Article XXIV:3) and on observance of GATT obligations by regional and local governments and authorities (Article XXIV:12). Specific exceptions for preferences between certain neighbouring countries (for example, Lebanon and Syria; Belgium-Luxembourg-Netherlands) were included in Article I of the GATT.

(b) Developments during the GATT years

The creation of the European Economic Community (EEC) and its association agreements were the principal focus of the discussions around Article XXIV during the early years of the GATT. Commentators describe intense debates among the GATT contracting parties on the consistency of the EEC with the requirements of Article XXIV. The compatibility of the Treaty of Rome with the requirements of Article XXIV was not resolved by the contracting parties. As Ladreit de Lacharrière (1987) notes, in 1958, the contracting parties considered it “more fruitful if attention could be directed to specific and practical problems, leaving aside for the time being ... debates about the compatibility of the Rome Treaty” with the GATT.⁵⁰

Eventually the GATT contracting parties opted for resolving some of the tariff issues surrounding the formation of the EEC as part of the Dillon Round (Hoda, 2001). The EEC association agreements with other countries were also the subject of intense debates. Here the concern was about the lack of a clear commitment to full liberalization or membership. EFTA's notification also gave rise to discussions, particularly because of its exclusion of agriculture and fisheries (Hudec, 1990). Another agreement that was notified at the time was ALALC, which included several

Latin American countries, and which raised concerns as to the ambitiousness of the liberalization programme and its objective of promoting infant industries⁵¹ (Hudec, 1990).

At the time, there was no standing body of the GATT that was responsible for reviewing agreements notified under Article XXIV. Instead, these agreements were reviewed by individual working parties. GATT contracting parties did not adopt definitive reports with respect to these agreements. Most commentators agree that, despite the many questions raised by some contracting parties with respect to the PTAs that were notified, what essentially developed was a policy of tolerance towards these agreements. Jackson (1969) observes that generally speaking the practice of the GATT was of "a high degree of tolerance for a wide diversity of regional arrangements". Nevertheless, he recognizes that "legal discussions about criteria in Article XXIV and consultations may have enabled the interests of parties that were not members to regional arrangements to influence those regional arrangements in a way that softened their detrimental impact on the trade of non-members".

Another important development during the GATT was the adoption of the Decision on Differential and More Favourable Treatment, Reciprocity and Fuller Participation of Developing Countries, commonly known as the "Enabling Clause". In addition to providing a basis for unilateral tariff preferences for developing countries, the Enabling Clause provides an exemption from the MFN obligation in Article I of the GATT for "(r)e gional or global arrangements entered into amongst less-developed contracting parties for the mutual reduction or elimination of tariffs and, in accordance with criteria or conditions which may be prescribed by the CONTRACTING PARTIES, for the mutual reduction or elimination of non-tariff measures, on products imported from one another".

A total of 124 agreements were notified to the GATT between 1948 and 1994. Of these, however, only 38 remained in force in 1995 when the WTO was established. As explained in a WTO Secretariat Report, this reflects "in most cases the evolution over time of the agreements themselves, as they were superseded by more modern ones between the same signatories (most often going deeper in integration), or by their consolidation into wider groupings" (Crawford and Fiorentino, 2005).

Discriminatory treatment under PTAs became a topic of increasing concern over the years. In 1983, the Director-General of the GATT created an independent group of seven eminent persons to study and report on the problems facing the international trading system. The group issued its report in March 1985. Commonly referred to as the "Leutwiler Report", one of its conclusions is that "(t)he rules permitting customs unions and free-trade areas have been distorted and

abused" and that "(t)o prevent further erosion of the multilateral trading system, they need to be clarified and tightened".

The Report indicated that, while the European Community and EFTA met the conditions in Article XXIV, "many agreements presented under the rules, including some agreements between the European Community and its associates, fall short of the requirements". It further cautioned that "(t)he exceptions and ambiguities which have thus been permitted have seriously weakened the trade rules, and make it very difficult to resolve disputes in which Article XXIV is relevant". Accordingly, the Report proposes that "GATT rules on customs unions and free trade-areas should be examined, redefined so as to avoid ambiguity, and more strictly applied, so that this legal cover is available only to countries that genuinely use it to establish full free trade among themselves" (Leutwiler, 1985).

(c) PTAs in the Uruguay Round

During the Uruguay Round, a group of countries that included Australia, India, Japan, New Zealand and the Republic of Korea favoured strengthening the disciplines of Article XXIV. Japan, in particular, proposed among others, improving the consultations before and after agreements were reached; establishing a firm time limit on "interim agreements", to ensure that members moved to genuinely open trade; clearly defining "general incidence" of duties or other regulations; and limiting the credit that a new customs union could claim if the general incidence of duties or regulations was actually lower than before. India, for its part, proposed reviewing the requirement that duties and other restrictive regulations be eliminated on "substantially all trade" between the PTA partners (Croome, 1995).

In a second set of proposals, Japan sought to improve the procedures for examination of preferential trade agreements, suggesting the establishment of special procedures, separate from GATT dispute settlement, to assess and discuss compensation for damages caused by preferential agreements to the trade of non-members. Some of those who opposed this proposal suggested that surveillance of preferential trade agreements could be undertaken under the newly-created Trade Policy Review Mechanism (Croome, 1995).

Another issue discussed during the Uruguay Round in connection with preferential trade agreements was the obligation in Article XXIV:12 relating to federal states. This point was initially raised by India, but was later taken up by the European Community, which presented a proposal to tighten Article XXIV:12 by affirming the full responsibility of GATT members for measures taken by their regional or local governments or authorities (Croome, 1995).

Ultimately, the discussion coalesced around the idea of negotiating an Understanding on Interpretation of Article XXIV, which would focus on the calculation of the level of duties before and after a customs union is formed, reassert the obligation to compensate, set out requirements for interim arrangements, limit the “reasonable period of transition” to ten years unless otherwise authorized, and acknowledge that matters arising under Article XXIV could be submitted to dispute settlement.

Despite initial opposition from the European Community (which wanted fuller credit in compensation negotiations for tariff reductions made by group members and was dissatisfied with the text on Article XXIV:⁵²12), India (which considered the text disproportionately weak), and Yugoslavia (which objected to the text on Article XXIV:⁵²12), the Understanding on Interpretation of Article XXIV was adopted and became part of the Uruguay Round agreements (Croome, 1995).

An additional development of significance during the Uruguay Round was the inclusion in the GATS of a provision on preferential agreements relating to trade in services.⁵²

(d) Developments in the WTO

(i) Committee on Regional Trade Agreements

The WTO Committee on Regional Trade Agreements (CRTA) was established by the General Council in 1996 (WT/L/127). It was initially foreseen that the CRTA would carry out the examinations of the regional trade agreements notified to the WTO, thus taking over the functions of the individual working parties of the GATT. Despite the establishment of the CRTA in 1996, the examination of RTAs resulted in stalemate. Between 1996 and 2001 not a single examination report had been adopted by the CRTA, in part due to continuing disagreements over the inherent ambiguities in GATT Article XXIV, the lack of information submitted by RTA parties, and the fact that the determination of consistency was to be made by all WTO members, including those whose RTAs were under examination.

In December 2006, WTO members adopted on a provisional basis a new transparency mechanism for regional trade agreements (WT/L/671).⁵³ The new mechanism calls on members to provide an “early announcement” of their involvement in negotiations for a regional trade agreement, requires members to promptly notify a newly concluded regional trade agreement, and sets out a schedule for its consideration by WTO members.⁵⁴ The mechanism provides that consideration of notified regional trade agreements should conclude within a year from the date of notification. For this purpose, parties to a

regional trade agreement are required to submit certain data to the WTO Secretariat, such as tariff concessions, MFN duties, rules of origin and import statistics.

Based on this data, the text of the agreement, and information from other sources, the WTO Secretariat prepares a factual presentation that is intended to assist members in their consideration of the notified regional trade agreement. WTO members are currently reviewing the transparency mechanism with a view to making it permanent. The transparency mechanism places emphasis on the “consideration” of RTAs rather than on their “examination”, which may be viewed by some as a tacit acknowledgement by members that their interests would be better served by focusing efforts on improving transparency.

WTO members are also engaged in negotiations as part of the Doha Round aimed at “clarifying and improving disciplines and procedures under the existing WTO provisions applying to regional trade agreements.” Negotiations are to “take into account the developmental aspects of regional trade agreements” and have been taking place in the Negotiating Group on Rules.⁵⁵

The CRTA reported that, as of 1 November 2010, 479 regional trade agreements, counting goods and services notifications separately, had been notified to the GATT/WTO, 288 of which were in force at the time.⁵⁶ These figures correspond to 375 “physical” agreements, of which 197 were in force (117 goods, 1 services and 79 goods and services). Of the 288 notifications, 174 were notified under GATT Article XXIV, 31 under the Enabling Clause, and 83 under GATS Article V. A total of 92 regional trade agreements had been considered under the Transparency Mechanism since its adoption in December 2006.⁵⁷

(ii) Dispute settlement

Despite the concerns expressed by many observers regarding the compatibility of many notified regional trade agreements with Article XXIV of the GATT, issues relating to regional trade agreements have not figured prominently in WTO dispute settlement. The most important issue that came up was the question of whether the consistency of a regional trade agreement with Article XXIV could be examined in WTO dispute settlement. In *Turkey–Textiles*, the Appellate Body held that panels have the authority to examine whether a regional trade agreement meets the requirements of Article XXIV. The burden of establishing that the regional agreement meets the requirements of Article XXIV falls on the respondent WTO member to the extent that it invokes the regional agreement as a defence to justify a discriminatory measure.

The availability of WTO dispute settlement to challenge regional trade agreements has given rise to mixed

reactions from commentators. Roessler (2000) has argued that the examination of the consistency of regional trade agreements was a matter that should have been reserved exclusively to the WTO's political organs and specifically to the CTRA. By contrast, Davey (2011) has suggested that WTO dispute settlement could be used to further clarify the disciplines of Article XXIV. WTO members so far have been reluctant to use the WTO dispute settlement system to enforce the obligations of Article XXIV of the GATT and Article V of the GATS.

Issues concerning the relationship between the WTO dispute settlement system and the dispute settlement systems of PTAs have been discussed in connection with a handful of WTO disputes. These disputes were addressed in subsection E.2. In this subsection, we address the small number of disputes in which Article XXIV has been explicitly raised.

As noted above, the case that has dealt most directly with the requirements of Article XXIV is *Turkey – Textiles*. In this case, the Appellate Body examined the requirements applicable to customs unions under subparagraph 5 of Article XXIV and explained that a party invoking this provision to justify an otherwise WTO-inconsistent measure must establish that the following two conditions have been fulfilled. First, it "must demonstrate that the measure at issue is introduced upon the formation of a customs union that fully meets the requirements of sub-paragraphs 8(a) and 5(a) of Article XXIV". Secondly, it must show that "the formation of that customs union would be prevented if it were not allowed to introduce the measure at issue" (Appellate Body Report, *Turkey – Textiles*, para. 58).

Article XXIV has also been raised in the context of several safeguard cases, where the issue has been whether a WTO member could exclude one of its partners in a preferential trade agreement from the application of a safeguard measure in departure from Article 2.2 of the Agreement on Safeguards. These cases were discussed in subsection E.2.

A measure taken pursuant to a PTA became relevant in a dispute in which Brazil invoked the General Exceptions in Article XX of the GATT to justify an import ban on retreaded and used tyres on public health grounds. As a result of a decision by a MERCOSUR tribunal, however, the import ban was not applied to imports of remoulded tyres from MERCOSUR members.

The panel found that "(t)he exception of remoulded tyres originating in MERCOSUR therefore does not seem to be motivated by capricious or unpredictable reasons" and that "(t)o the extent that the existence of some discrimination in favour of other members of a customs union is an inherent part of its operation, the possibility that such discrimination might arise between members of MERCOSUR and other WTO

Members as a result of the implementation of the MERCOSUR Agreement is not, in our view, *a priori* unreasonable".

The panel nevertheless noted that "the fact that we give due consideration to the existence of Brazil's commitments under MERCOSUR in our assessment does not imply that the exemption must necessarily be justified. Rather, we must now examine the manner in which the import ban is applied, taking into account the existence of an exemption for MERCOSUR members, in order to determine whether the discrimination arising from the MERCOSUR exemption is arbitrary or unjustifiable". Because the panel found that the "volumes of imports of retreaded tyres under the exemption appear not to have been significant", it concluded that "the measure's ability to fulfil its objective does not appear to have been significantly undermined by the occurrence of imports from other sources, even in the presence of an exemption for MERCOSUR imports".

Therefore, the panel concluded that "the operation of the MERCOSUR exemption has not resulted in the measure being applied in a manner that would constitute arbitrary or unjustifiable discrimination". The panel also relied on its analysis of the volume of imports to conclude that the MERCOSUR exemption did not result in the import ban being a disguised restriction on international trade (Panel Report, *Brazil-Retreaded Tyres*, paras. 7.272-7.289 and 7.354-7.355).

The Appellate Body disagreed with the panel's finding, explaining that the ruling of the MERCOSUR arbitral tribunal was not an acceptable rationale for the discrimination, because it bore no relationship to the protection of public health, the legitimate objective pursued by the import ban under Article XX(b), and "even [went] against this objective, to however small a degree". The Appellate Body held "that the MERCOSUR exemption has resulted in the Import Ban being applied in a manner that constitutes arbitrary or unjustifiable discrimination".

Moreover, the Appellate Body disagreed with the panel's consideration of the volumes of imports. According to the Appellate Body, the analysis of "whether discrimination is 'unjustifiable' will usually involve an analysis that relates primarily to the cause or the rationale of the discrimination", and does not depend on "the quantitative impact of this discrimination on the achievement of the objective of the measure at issue". For the same reason, the Appellate Body reversed the panel's finding that the import ban was not applied in a manner that constituted a disguised restriction on international trade (Appellate Body Report, *Brazil-Retreaded Tyres*, paras. 228-229).

A point emphasized by the Appellate Body was that "before the arbitral tribunal established under MERCOSUR, Brazil could have sought to justify the challenged Import Ban on the grounds of human,

animal, and plant health under Article 50(d) of the Treaty of Montevideo", yet Brazil decided not to do so. The Appellate Body observed that "Article 50(d) of the Treaty of Montevideo, as well as the fact that Brazil might have raised this defence in the MERCOSUR arbitral proceedings, show, in our view, that the discrimination associated with the MERCOSUR exemption does not necessarily result from a conflict between provisions under MERCOSUR and the GATT 1994" (Appellate Body Report, *Brazil–Retreaded Tyres*, para. 234).

4. The relationship between PTAs and the WTO

(a) Coherence in international trade governance

The quest for coherence between regionalism and multilateralism is nothing new. In the early days of the multilateral trading system, economic thinking focused on the welfare effects of PTAs. As explained in Section C, the main finding was that these effects were ambiguous for members and generally negative for third parties. As PTAs were mostly about tariff reductions, multilateral market opening which, even if it does not mean completely open trade, reduces discrimination, was seen as superior to preferential opening.⁵⁸ In this context, ensuring coherence was understood as accepting that PTAs and the multilateral system could complement each other while imposing disciplines aimed at minimizing the negative effects that PTAs could have.

As mentioned above, in the 1990s, the expansion of regionalism brought the coherence issue back to the forefront. Many analysts re-examined the relationship between the two approaches, this time focusing on the systemic effects of regional integration. They showed that PTAs could either be stepping stones or stumbling blocks on the road to multilateral market opening. This literature, however, did not provide much guidance on how to improve coherence.

Whether they view the multilateral trading system and PTAs as complementing each other or think that the multilateral system is simply superior to the regional approach, observers broadly agree that "the case for finding ways of strengthening the ability of the WTO to influence and discipline PTAs, or at least to blunt their more exclusive and distorting features, remains strong" (Low, 2008).⁵⁹ Subsection 3 has shown how since its inception the multilateral system has accommodated preferential trade agreements. GATT/WTO members have largely taken a non-confrontational and non-litigious approach. Approaches to improving coherence have focused on the weaknesses of multilateral disciplines and how they could be fixed. This subsection summarizes the debate and briefly discusses the main proposals. It appears that feasibility is the main issue and political economy is the key.

Recent developments in PTA activity may well change the perspective on coherence. As documented in Section B, PTA activity accelerated noticeably from 1990 onwards. The number of PTAs had more than doubled by 1995 and more than quadrupled by 2010, resulting in close to 300 active PTAs today. As previously discussed, new PTAs – or at least some of them – are qualitatively different from older ones. While part of recent PTA activity has consisted of the consolidation and rationalization of bilateral arrangements, there has also been a trend towards bilateral deals across the world. Since 1995, PTA activity has increasingly crossed regional boundaries. The coverage of PTAs in terms of both policy areas and products has also widened and deepened over time.

This has led some observers to think that regionalism has entered a "new era" where the old analytical framework is no longer valid and where ensuring coherence no longer means merely imposing multilateral disciplines on discrimination. Baldwin (2010), for instance, sees recent PTAs as providing the framework to underpin the "production unbundling" that characterizes a growing share of world trade. In his view, twenty-first century regionalism is more about reducing frictional trade barriers and the cost of doing business and removing domestic entry barriers than about tariff preferences. Given that preferential agreements on such behind-the-border measures do not typically induce trade diversion, their systemic implications cannot be analysed using the traditional stumbling block/stepping stone framework (see Section C).

The political economy of more recent PTAs is also about a lot more than preferential tariffs. First, according to Baldwin (2010), only a few countries can play a leading role in such agreements. PTAs motivated by production sharing, in particular between developed and developing countries, may be seen as an exchange of factories for the relaxation of behind-the-border barriers and assurances to offshoring firms that their investments and intellectual property will be safe. Few countries, in Baldwin's view, have the sort of factories that can be exchanged for deep reform of behind-the-border measures.

Secondly, negotiating behind-the-border reform in the WTO may not help to directly foster inward investment. Thirdly, the nature of behind-the-border policies makes it difficult to multilateralize PTAs. For example, the principle of subsidiary (see below) may apply in that some areas may best be disciplined at the regional or bilateral level. These considerations lead Baldwin (2010) to the conclusion that "it is, thus, possible and even likely that the new disciplines form an independent system of governance that does not intersect much, or at all, with Marrakesh rules". If this is the case, the coherence challenge posed by recent trends in regional agreements may be quite different from that arising from discriminatory tariff reductions. It may be that new international trade rules are being negotiated and

decided outside the WTO in a setting where differences in power are greater and in the absence of the basic principles of non-discrimination and reciprocity.⁶⁰

Whether and how this new challenge needs to be addressed is an open question. Further research will be necessary to understand better the systemic effects of deep integration. One issue that may require further investigation is the effects of power asymmetries and options for mitigating them. Also, as already mentioned, the principle of subsidiarity could be used to assess whether measures agreed at the bilateral or regional level need to be submitted to multilateral disciplines.^{61 62} This principle states that “action to achieve agreed policy objectives should be taken at the lowest level of government capable of effectively addressing the problem at hand” (Sauvé and Beviglia-Zampetti, 2000). Because countries have different tastes, cultures, endowments, or institutions, their social choices differ. At the same time, efficiency criteria suggest that regulatory regimes should apply to the largest possible communities.

Given this trade-off, the subsidiarity principle states that the determination of regulatory regimes should be as decentralized as possible unless action in one jurisdiction has an impact in others (spillovers) – resulting in cross-border external effects (externalities), or the creation of economies of scale or public goods, in which case they too should be consulted. In other words, “unless there are significant spillovers, there is no efficiency case for imposing one set of standards across different regulatory domains” (Rollo and Winters, 2000).

A basic rationale for international cooperation on regulation is that the cost of complying with different standards may be high. Economies of scale (across countries) and scope (across issues) are likely to exist in rule-making. However, conflicts of interest can arise between countries with permissive regulations and countries with strict regulations that make multilateral coordination hard and perhaps in some instances undesirable. If these factors are sufficiently prevalent, mutual recognition and harmonization of product norms and testing may work better bilaterally and plurilaterally (between relatively similar countries) than multilaterally. While there may be concerns regarding possible negative third-party effects of common or mutually recognized standards and shared conformity assessment in PTAs, empirical evidence suggests that the EU's single market programme increased access at least as much for third-party firms (Mayer and Zignago, 2005).⁶³

Finally, the fact that PTAs where preferential tariffs are still important have not disappeared means that both the new and the old coherence challenges need to be tackled at the same time. The evidence presented in Section D suggests that only a (relatively small) number of the new PTAs have little or nothing to do with preferential tariffs, and that tariff preferences still play a role in many new agreements. The next sub-

section provides a short summary of the debate on existing multilateral disciplines. This overview is followed by a discussion of some of the main options for improving coherence.

(b) Multilateral disciplines on PTAs

As explained in subsection 3, the multilateral system has generated three core provisions to deal with regionalism. The first provision is GATT Article XXIV, which allows departures from MFN for customs unions and FTAs. The Uruguay Round Understanding on the Interpretation of Article XXIV of the GATT seeks to clarify the criteria and procedures for assessing new or enlarged agreements and to improve transparency. The second provision is the “Enabling Clause”, which relaxes (some of) the GATT provisions on PTAs for developing countries in the name of “special and differential treatment” for this group of countries. The third provision is Article V of the GATS, which sets out the rules for PTAs in the services field. As discussed above, WTO members more recently also adopted on a provisional basis a new transparency mechanism for regional trade agreements.

Over the years, a number of concerns regarding the effectiveness of the multilateral oversight of regional agreements have emerged (Davey, 2011; Low, 2008). First, it has been argued that a number of Article XXIV provisions defy uncontested legal interpretation and, more generally, are deficient.⁶⁴ The debate has focused on the interpretation of:

- Paragraphs 5(a) and 5(b) of GATT Article XXIV, which state that “the duties and other regulations of commerce” imposed on third parties should not “on the whole be higher or more restrictive than the general incidence” of the pre-PTA duties and regulations;⁶⁵
- Paragraphs 8(a) and 8(b) of GATT Article XXIV, which state that duties and other restrictive regulations of commerce should be eliminated with respect to “substantially all the trade” between the constituent territories, and Paragraph 1(a) of GATS Article V, which states that an RTA should have “substantial sectoral coverage”;
- Paragraph 3 of the Understanding on the Interpretation of Article XXIV of the GATT, which states that the “reasonable length of time” within which the implementation of an RTA should take place should exceed ten years only in exceptional cases.

Secondly, several gaps in the GATT/WTO legal and institutional framework have been identified. The absence of disciplines regarding rules of origin for free trade agreements, in particular, has become an issue with the multiplication of such agreements and the resulting expansion of a spaghetti/noodle bowl. Similarly, there is no indication regarding how agricultural tariff quotas should be treated in

preferential agreements, whether members of such agreements are allowed to exclude their PTA partners from the application of contingency measures applied to the trade of third parties, or whether PTA parties may or may not apply safeguards on their trade with each other. Another question that has been raised is whether the special and differential treatment provisions for developing country PTAs should be extended beyond those in the Enabling Clause.⁶⁶

Thirdly, while the law of the GATT/WTO may have influenced PTA negotiations, in practice, it has never been used to impose discipline on discriminatory reciprocal trade agreements (Davey, 2011; Low, 2008). Governments have almost never agreed through established procedural arrangements whether any given PTA is in conformity with the multilateral rules. Procedural requirements such as notifications have been partially observed at best and dispute settlement findings have not helped address existing weaknesses in the disciplines.

In the eyes of some observers, it is revealing that the Transparency Mechanism for Regional Trade Agreements is the only result of the Doha Round negotiations that has been allowed to go forward independently of the full results of the Round.⁶⁷ This suggests both that WTO members are aware of the need to understand better what regional trade agreements are about and that they continue to privilege a cautionary approach (Low, 2008). Others go even further and consider that the Transparency Mechanism advantageously substitutes the “old” review process (Mavroidis, 2010). With trade diversion reduced as a result of multilateral tariff reductions, along with empirical evidence suggesting that PTAs can be welfare improving, and with PTAs covering a number of issues not covered by the WTO, existing rules are considered to be of limited relevance. Mavroidis (2010) argues that the Transparency Mechanism should become the *de jure* new forum to discuss PTAs within the multilateral trading system.⁶⁸

(c) Possible ways to improve coherence

This report has discussed the idea that there may be a case for maintaining separate regimes for regional and multilateral cooperation. This would be the case where particular types of cooperation are more appropriately managed at the regional rather than the multilateral level. By the same token, there are issues that cannot be addressed adequately at the regional level. In between these two polar realities, the coherence question arises. Essentially, the challenge is to identify where there are gains from ensuring greater coherence among PTAs and between PTAs and the multilateral trading system.

A number of different approaches have been proposed for improving coherence between PTAs and the multilateral trading system (Davey, 2011; Low, 2008;

Sutherland Report, 2004; The Warwick Commission, 2007; World Trade Organization (WTO), 2003). This subsection reviews these proposals and groups them under four headings: i) accelerating multilateral trade opening; ii) fixing the deficiencies in the WTO legal framework; iii) adopting a softer approach as a complement to the existing legal framework; and iv) multilateralizing regionalism. These approaches are not necessarily mutually exclusive. They all aim at reinforcing compatibility and coherence, which essentially means making sure that PTAs contribute to trade cooperation and opening in a fundamentally non-discriminatory manner. They differ mainly in terms of what they see as a politically feasible strategy to reach this objective.

Lowering MFN tariffs would reduce discrimination and thereby blunt the adverse effects of PTAs. The Sutherland Report, for instance, recommended that all developed country tariffs should be bound at zero in WTO members' schedules of commitments at some agreed upon time in the future. While a reduction to zero of all developed country tariffs on industrial products may not seem impossible to achieve in a not too distant future, the Doha Round negotiations suggest that this may not happen without a measure of reciprocity from emerging economies. As for the elimination of all tariffs on agricultural products, this does not seem to be politically feasible in the current context. Also, binding all tariffs at zero may take care of tariff-induced trade diversion but it would not eliminate all potentially adverse effects of deeper integration measures.

As for the idea of filling gaps in the WTO legal framework, the Doha Round includes a mandate to negotiate with a view to “clarifying and improving disciplines and procedures under the existing WTO provisions applying to regional trade agreements”. The negotiations have been pursued along two tracks. On the one hand, members addressed procedural issues relating to the transparency of PTAs. On the other hand, they tried to identify issues for negotiation, including “substantive” issues, such as systemic and legal issues.⁶⁹ As already mentioned, negotiations on the procedural issues resulted in the adoption on a provisional basis of a new transparency mechanism for regional trade agreements (WT/L/671). The negotiations on the “substantive” issues have so far generated proposals by various members mainly aimed at clarifying the provisions of GATT Article XXIV. While these proposals contribute usefully to the debate, they do not seem to have converged towards any form of consensus on possible reforms to the rules.⁷⁰

This should not come as a complete surprise as previous discussions have not led to much progress on substantive issues.⁷¹ One possible explanation for the lack of progress is that members who have entered PTAs in the past may be reluctant to sign off on clarifications in the rules that might suggest that the

PTAs they belong to did not comply with Article XXIV (Davey, 2011). Considering that efforts to clarify concepts such as "substantially all trade", "other restrictive regulations of commerce", etc. have had limited success so far, it seems unlikely that the second option referred to above – that of clarifying and strengthening existing rules – would be viable.

Moreover, WTO members have been reluctant to use the WTO dispute settlement system in order to clarify existing rules and it does not seem likely that they will change this posture in the near future. This does not mean that revised and improved rules will not one day be part of any significant progress towards more coherence, only that this does not seem to be a promising starting point. In that context, economic analysis could help strengthen the existing provisions. It shows, for example, that the condition in GATT Article XXIV that the protection applicable to non-members should not increase with the creation or extension of a PTA will not necessarily protect the latter from a welfare loss.⁷²

The third option noted above would be to adopt a "soft law" approach to complement the "hard law" and the dispute settlement mechanism. There is no agreement in the literature regarding the definition of the concept of "soft law", although legal scholars often seem to define hard law as binding and soft law as non-binding (Shaffer and Pollack, 2010). One example of soft law would be the Code of Good Practice for the Preparation, Adoption and Application of Standards annexed to the WTO Agreement on Technical Barriers to Trade. Following the Code is optional for WTO members and WTO dispute settlement is unavailable as a remedy under the Code. Another example would be APEC's Best Practices for Free Trade Agreements and Regional Trading Agreements.⁷³ The rationale for using a soft law approach would be to allow WTO members to better understand their respective priorities and interests, with a view eventually to unblocking progress towards legal interpretations of particular provisions that would ensure coherence.

The soft law approach is not without risk. As pointed out by Shaffer and Pollack (2010), soft law and hard law could become antagonistic to one another if the underlying conditions for cooperation are absent. Low (2008) argues that a shared perception of objectives and the nature of the transition to hard law would increase the chances that soft law could help rebuild hard law. In view of these considerations, he proposes a three-stage approach. The first stage would involve increased transparency and information sharing under the new Transparency Mechanism. This reinforced exchange of views would pave the way for the progressive development of soft law in the form of a code of good practices in the second stage. Finally, in a third and last stage, when governments become comfortable with the soft law, negotiations aimed at improving the hard law provisions could be undertaken.

The fourth and last proposal is to multilateralize regionalism (Baldwin, 2006; Baldwin and Thornton, 2008). Baldwin (2009) defines a process of multilateralization as the extension of existing preferential arrangements in a non-discriminatory manner to additional parties, or a fusion of distinct PTAs. The idea is that, as a result of global production sharing, political economy forces that were behind the proliferation of PTAs and the creation of the so-called spaghetti bowl have weakened and are being progressively replaced by new forces favourable to the multilateralization of preferences. This translates into a number of multilateralization initiatives both at the regional and at the multilateral level.

Examples of initiatives taken at the regional level to reduce the tangle of PTAs include APEC's Best Practices for PTAs or the Pan European Cumulation System, which reduced the distortions of international economic production within the zone through the harmonization of rules of origin and diagonal cumulation. An interesting example of multilateralization at the multilateral level is the Information Technology Agreement, which established a mechanism for the elimination of MFN tariffs on information technology products and thus made rules of origin and rules of cumulation non-operative.

Recent research has highlighted the potential cost of overlapping PTAs and complicated rules of origin to today's world of geographically fragmented production chains (Baldwin et al., 2009). There may be a role for the WTO to reduce these transaction costs by serving as a forum for the coordination/standardization/harmonization of preferential rules of origin.⁷⁴ Another way that greater coherence can be established has already been discussed and consists of identifying "best practices" in PTAs.⁷⁵ As noted in Section D, the extent to which deep integration measures in PTAs have the potential to generate the same sort of costly spaghetti/noodle bowl as tariff preferences is still being debated. Baldwin et al. (2009) explore six different areas, discussing for each of them whether PTAs have created a spaghetti bowl and how PTA provisions have been or could be multilateralized.

A final thought with respect to moves towards the multilateralization of PTAs concerns decision-making procedures. Several authors (Lawrence, 2006; VanGrasstek and Sauvé, 2006; Cottier, 2009; Elsig, 2009; Low, 2011) have considered the possibility of developing a multilateral approach to a modified consensus rule, often referred to as critical mass decision-making. The approach proposed by Low (2011) is very similar to the so-called "code" approach that emerged in the Tokyo Round agreements on non-tariff measures, but which was subsequently eliminated by the "Single Undertaking" (whereby nothing is agreed until everything is agreed) that accompanied the creation of the WTO in 1995. A revival of the critical mass approach occurred with the

post-Uruguay Round agreements on basic telecommunications and financial services, as well as the Information Technology Agreement.

The adoption of a critical mass approach would make it possible to multilateralize trade rules without implicating the entire WTO membership – a proposition that may look attractive where there is a case for more broadly shared regulatory approaches to trade but not necessarily on a global basis. A critical mass may be said to exist when a sufficiently large subset of the entire membership agrees to cooperate under the auspices of the WTO. An important characteristic of the approach is that agreements do not involve any discrimination vis-à-vis non-signatory countries.

Appropriately chosen institutional and procedural safeguards could protect the system against the risk of fragmentation and dilution of the multilateral basis for trade cooperation. Regarding the definition of critical mass, for example, a simple but effective approach could be to let the critical mass define itself. Critical mass would be reached when those prepared

to go ahead with an agreement consider that support and commitment for the agreement in the membership is sufficient. Those left outside would then be considered too small to undermine the agreement and there would not be any reason for refusing to apply the MFN rule in respect of all the benefits to all non-signatories.

Another important question is whether and when consensus decision-making would need to be applied to critical mass initiatives. In the absence of multilateral participation through a consensus-based process, a risk exists that a sub-set of the membership could shape rules from which they benefitted, but at the expense of members that were not part of the critical mass. The suggestion here is that critical mass agreements would need to be approved by consensus before they enter into force. Not only would the risk of damaging the interests of non-members of the critical mass be guarded against, but critical mass agreements would also remain within the ambit of the multilateral system.

Endnotes

- 1 "Systemic effects" are defined for the purpose of this report as the static and dynamic effects of PTAs on the multilateral trading system. An example of static effect is the possibility of conflicting rules, for instance on trade remedies. An example of a dynamic effect is the impact of a PTA on the probability of engaging in further multilateral negotiations.
- 2 There is some theoretical and empirical work studying the inverse question of whether multilateralism drives the proliferation of PTAs. Ethier (1998) and Freund (2000) build theoretical models where PTA formation is an endogenous response to the multilateral trading system. Using data on multilateral tariff cuts and duty-free access concessions granted by the United States at the tariff-line level, Fugazza and Robert-Nicoud (2010) find empirical evidence in support of the claim that past MFN opening sows the seeds of future preferential opening.
- 3 There are practical problems with this argument. First, assuming the availability of international lump-sum transfers may not be realistic, and in their absence, it may very well be that, at some point, some bloc members will veto further enlargements. Secondly, nothing forces PTA members to set their external tariffs as assumed by Kemp and Wan and they may indeed have reasons to set them differently (see Section C.1).
- 4 "Preference erosion" refers to declines in the preference margin that some exporters enjoy in foreign markets as a result of preferential trade treatment. It can occur when export partners eliminate preferences, expand the number of preference beneficiaries, or lower their MFN tariff without lowering preferential tariffs proportionately (Alexandraki and Lankes, 2004).
- 5 Excluded countries suffer from the PTA because the border price faced by their exporters falls. From the perspective of member countries, the gains of moving to global free trade are better access to third-country markets and more liberalization in their import markets. However, these gains are small for low initial tariffs, giving no incentive to PTA member countries to move to multilateral tariff reductions.
- 6 However, Amiti and Romalis (2007) argue that for many developing countries, actual preferential access is less generous than it appears because of low product coverage or complex rules of origin. Therefore, lowering tariffs at the multilateral level (Doha Round), especially on agricultural goods, is likely to lead to a net increase in market access for many developing countries.
- 7 This is the so-called "juggernaut" logic (Baldwin and Robert-Nicoud, 2008).
- 8 Note that the effect could be reversed if the PTA resulted in a higher level of protection for the home import competing sector. In this case, as argued below, the PTA would inhibit multilateralism.
- 9 Enhanced protection is obtained when producers from the low-(external) tariff member can export all their output to the high-tariff member without affecting prices there. In that case, producers in the high-tariff country are not hurt while producers from the low-tariff country enjoy higher protection rents (Freund and Ornelas, 2010).
- 10 As discussed in Section C, Ornelas (2005b), (2005a) qualifies the argument in models where the external tariff is endogenous. The possibility that trade-diverting PTAs are formed is more limited, but cannot be ruled out.
- 11 Schiff and Winters (1998) argue, however, that PTAs based on such factors are likely to be transitory, since optimum trade preferences tend to decline over time. In their model, the PTA's external trade policy becomes increasingly open over time.
- 12 Notice that this result is independent of the existence of political economy motivations in excluded countries. If, however, the governments of non-member countries put a disproportionately high value on the profits of producers, they are even more likely to oppose global trade opening.
- 13 Since it is not possible to observe the degree of multilateral liberalization to which a country that is a member of a PTA would have committed to in its absence, these empirical studies have to rely on differences in liberalization patterns over time, across countries or across sectors, making it harder to identify the causal effect of PTAs.
- 14 Unilateral tariff reductions have accounted for two-thirds of the 21 percentage point cuts in average weighted tariffs of all developing countries between 1983 and 2003, according to the World Bank (2005). Tariff reductions associated with the multilateral commitments in the Uruguay Round accounted for about 25 per cent, and the proliferation of regional agreements amounted to about 10 per cent of the reduction.
- 15 Both studies find that Uruguay Round liberalization was smaller in products where preferences were granted.
- 16 This interpretation is strongly criticized by a number of scholars (Baldwin, 2009). According to Baldwin (2009), it is Canada and Mexico's change of mind that triggered the rise of regionalism in North America.
- 17 This and the following paragraph draw on World Trade Organization (WTO) (2007).
- 18 As explained in more detail below, the PECS arrangements came into being because industrial trade was almost duty-free in Europe, but trade flows were beset by complex and intertwining origin and cumulation rules. Trade in information technology products was virtually duty free, but the impediments to efficiency arising from multiple preferential arrangements built pressure on governments to simplify arrangements – hence the ITA.
- 19 The point is more general than service liberalization. It applies, for instance, to policies that reduce or eliminate technical barriers to trade (TBTs) across the board, by way of regulatory harmonization or mutual recognition. Empirical evidence suggests that the EU's single market programme (a large part of which is based on non-discriminatory regulation) increased access at least as much for third-party firms as for EU members (Mayer and Zignago, 2005).
- 20 First-mover advantage defines cases in which the supplier that first gets into the market can benefit from a long-lasting advantage, even if other suppliers are not subsequently prohibited from entering. See Mattoo and Fink (2004) and Manger (2008).
- 21 GATS Article V:6 mandates the establishment of liberal RoOs for PTAs involving developed countries. The Article establishes that "*A service supplier of any other Member that is a juridical person constituted under the laws of a party [...] shall be entitled to treatment granted under such agreement, provided that it engages in substantive business operations in the territory of the parties to such agreement*". GATS Article V:3(b) provides that PTAs involving only developing countries may "limit trade preferences to service suppliers owned or controlled by persons of the parties". Yet most PTAs among developing countries have not taken advantage of this option. Among the

- reasons why countries have agreed to include liberal RoOs in the GATS and not to use the special and differential treatment provision specified above, Fink and Jansen (2009) mention: i) the fact that established non-party service suppliers are seen as part of the domestic economy; ii) in the presence of network economies, it is more efficient for services providers to simultaneously serve several markets, which is made easier by flexible rules of origin; iii) participation in global production sharing creates an incentive to abandon idiosyncratic service standards as a way of boosting the competitiveness of own exporters and improving the attractiveness of nations to FDI.
- 22 For instance, the Closer Economic Partnership Arrangements (CEPA) between China and Hong Kong, China and Macao, China, respectively, follow the wording of GATS Article V:6 very closely. However, Emch (2006) argues that the necessity to accumulatively comply with six requirements (nature and scope of business; years of operations; payment of taxes; business premises; employment of staff; exclusion of intra-group services) to qualify for the "substantial business operations" requirement may *de facto* grant access only to a few service suppliers, on a selective basis.
- 23 It should be noted that GATS Article V:6 only recognizes the interests of juridical, but not of natural persons of third countries who supply services under mode 4 in the territory of one of the PTA members. For instance, a Japanese national with a degree from a French university and a licence to practice in France who wants to work in Germany would not be entitled to the treatment granted to EU nationals.
- 24 According to UNCTAD (2009), 2,676 BITs were in place at the end of 2008. Eighty-two BITs were signed in 2009, and six during the first five months of 2010 (United Nations Conference on Trade and Development, 2010).
- 25 In the context of investment, MFN requires that all investors from PTA-member countries are accorded the best treatment accorded to any other foreign investor. NT requires that investors from PTA-member countries are treated as well as domestic investors.
- 26 NAFTA-based agreements accord the better of MFN and NT. See Kotschwar (2009) and the discussion of investment provisions in Section D.
- 27 The bilateral agreements that flourished in Europe from the mid-nineteenth century until World War I included such unconditional non-discrimination clauses. The end result was *de facto* multilateral non-discriminatory liberalization (Lampe, 2009).
- 28 There are, however, a number of caveats that limit the role of such MFN clauses as automatic multilateralizers of preferential treatment. These caveats are discussed in Section E.2(e) below.
- 29 See Baldwin et al. (2009) for details.
- 30 The trade effects of PECS are discussed in Box C.4 of Section C. For a discussion of the effects of the "multilateralization" of rules of origin on the multilateral trading system, see Box E.2.
- 31 A radical solution would be the elimination of MFN tariffs on industrial goods, which would render rules of origin unnecessary. This is obviously politically unpalatable.
- 32 Article 23.2 of the DSU "prohibits certain unilateral action by a WTO member". More specifically, under Article 23.2, a WTO member "cannot unilaterally: (i) determine that a violation has occurred, benefits have been nullified or impaired, or that the attainment of any objective of the covered agreements has been impeded; (ii) determine the duration of the reasonable period of time for implementation; or (iii) decide to suspend concessions and determine the level thereof". (Appellate Body Report, US / Canada – *Continued Suspension*, para. 371).
- 33 See the GATT ruling in *United States – Margins of preference*, BISD II/11.
- 34 For a detailed discussion of jurisdiction of international adjudicative bodies and of these doctrines, see Shany (2005).
- 35 This can happen, for example, where the complainant in one forum is a government, while the complainant in the other forum is a private party.
- 36 For a contrary view, see Kuijper (2010).
- 37 It should be clarified that the existence of conflicting decisions was not the basis for the reversal of the WTO panel by the Appellate Body.
- 38 Notice that the welfare effects of this increased discrimination are, however, unclear, because there is potentially both trade creation within the PTA and trade diversion away from cheaper sources of imports from non-members.
- 39 Teh et al. (2009) and Prusa and Teh (2010) map the anti-dumping provisions of about 80 PTAs, covering almost 50 per cent of worldwide exports. Because anti-dumping use is governed by the WTO Anti-dumping Agreement, they expect that if PTA rules have any impact, they will serve to make AD duties more difficult to impose on PTA members. This can take a number of forms. Some PTAs increase the threshold required to apply anti-dumping duties, or in the event that a duty is applied, either reduces it below the dumping margin or shortens the applicable duration. Other PTAs give a role to regional bodies to conduct investigations and/or review the final determinations of national authorities.
- 40 To explain the method, imagine observing anti-dumping activity against two groups of countries (PTA members and non-PTA members) for two time periods (pre- and post-PTA establishment). The PTA countries are "treated" to some additional anti-dumping rules that possibly affect activity in the post-PTA period but not in the pre-PTA period. The non-PTA countries are not exposed to the treatment during either period. Thus, any observed difference in anti-dumping activity between the two groups of countries can be causally attributed to the treatment – the anti-dumping rules.
- 41 The discussion in this subsection closely follows Prusa and Teh (2010).
- 42 PTAs which exclude PTA partners from global actions include Australia-Thailand, Australia-US, Canada-Chile, Canada-Israel, EU-Chile, Group of Three, Mexico-Chile, Mexico-Israel, Mexico-Nicaragua, Mexico-Northern Triangle, Mexico-Uruguay, NAFTA, US-CAFTA-DR, US-Jordan and US-Singapore.
- 43 Most of the PTAs describe very precisely what "substantial share" of total imports and "contribute importantly to serious injury" mean. In some PTAs, "not substantial share of total imports" means if the partner is not among the top five suppliers during the most recent three-year period. The phrase "not contribute importantly to serious injury or threat thereof" means that the growth rate of imports from the PTA partner is appreciably lower than the growth rate of total imports from all sources.
- 44 In *Argentina–Footwear*, Argentina included MERCOSUR imports in the analysis of factors contributing to injury to its domestic industry. But it excluded MERCOSUR countries from

the application of the safeguard measure. In *United States–Wheat Gluten*, the United States excluded Canada from the application of its safeguard action although imports of wheat gluten from Canada were included in the investigation phase. In the *United States–Line Pipe* case, the United States excluded imports from its NAFTA partners from the safeguard measure while including them in the analysis of factors contributing to injury. And in *United States–Steel*, the United States included all sources of imports in its analysis of increasing imports, serious injury and the causal nexus. However, it excluded its NAFTA partners, Israel and Jordan from the application of its safeguard action.

- 45 While the word parallelism is not found in the text of the Agreement on Safeguards, the Appellate Body considered that the requirement of parallelism is found in the language used in the first and second paragraphs of Article 2 of the Agreement on Safeguards. See Appellate Body Report, *US –Steel*, para. 439.
- 46 See Pauwelyn (2004) for a critique of the Appellate Body's use of this principle.
- 47 One dispute (between the United States and the Republic of Korea) in which this issue was given some consideration was the *United States–Line Pipe* case. There the United States argued that GATT Article XXIV gave it the right to exclude its NAFTA partners from the scope of the safeguard measure. The panel accepted the US argument that the exclusion of its PTA partners from safeguard actions forms part of the required elimination of "restrictive regulations of commerce" on "substantially all the trade" among the free trade area members, which is a condition required by GATT Article XXIV. The panel decision was subsequently appealed by the Republic of Korea. On appeal, the Appellate Body declared the ruling by the panel on Article XXIV as moot and having no legal effect. The question whether Article XXIV of the GATT 1994 permits imports originating from a PTA partner to be exempted from a safeguard measure becomes relevant only in two circumstances. The first was when the imports from PTA members were not included in the safeguard investigation. The second was when imports from PTA members were included in the safeguard investigation it nevertheless was established explicitly that imports from sources outside the free-trade area, alone, satisfied the conditions for the application of a safeguard measure. Since neither of these applied to the circumstances surrounding the *United States–Line Pipe* case, the issue was not relevant to the case. The Appellate Body was careful to point out though that, in taking this decision, it was not ruling on the question whether Article XXIV of the GATT 1994 permits exempting imports originating in a member of a free-trade area from a safeguard measure. This decision thus leaves the question of an appeal to GATT Article XXIV still very much open.
- 48 However, Baldwin et al. (2009) argue that production unbundling is likely to soften political opposition to non-discriminatory deep provisions. See Section E.2 (e).
- 49 Two minor amendments were made to Article XXIV of the GATT in 1955-1957. The term "constituent territories" was replaced with "parties", and the term "included" was replaced with "provided for" (Jackson, 1969).
- 50 Certain measures that were linked to the formation of the European Economic Community or its expansion were challenged in GATT dispute settlement. (See, for example, US Action Under Article XXIII (Chicken War) and EEC Citrus Preferences (and Association Agreements)). At the same time, as Hudec (1990) notes, the formation of the European Economic Community meant that disputes between EEC members were no longer brought to WTO dispute settlement. He further observed that for some time the EEC was reluctant to initiate disputes against other contracting parties fearing that it would invite challenges to EEC measures.
- 51 Hudec (1971) suggests that Article XXIV may not have been "drafted with the developing countries in mind". He explains that while the GATT recognizes the right to raise trade barriers for the purposes of industrial development - that is, to promote infant industries - the requirements of Article XXIV may limit this possibility, as they call for elimination of internal barriers and a *status quo ante* ceiling on external barriers.
- 52 For a history of this provision, see *Systemic Issues related to 'Substantially all the Trade'*, Background Note by the Secretariat (Revision), WT/REG/W/21/Rev.1, 5 February 1998. By contrast, a provision on preferential trade agreements was not included in the TRIPS Agreement.
- 53 On 14 December 2010, the General Council adopted a Decision on a Transparency Mechanism for Preferential Trade Arrangements (WT/L/806), which was drafted as a result of the mandate given by the General Council to the Committee on Trade and Development in 2006. This mechanism covers: preferential trade agreements falling under paragraph 2 of the Enabling Clause, with the exception of regional trade agreements under paragraph 2(c); preferential trade agreements taking the form of preferential treatment accorded by any member to products of least-developed countries; and any other non-reciprocal preferential treatment authorized under the WTO Agreement. Paragraph 2(c) of the Enabling Clause refers to "Regional or global arrangements entered into amongst less-developed contracting parties for the mutual reduction or elimination of tariffs and, in accordance with criteria or conditions which may be prescribed by the CONTRACTING PARTIES, for the mutual reduction or elimination of non-tariff measures, on products imported from one another".
- 54 Agreements notified under GATT Article XXIV and GATS Article V are considered by the CTRA. Agreements notified under the Enabling Clause are considered in the Committee on Trade and Development (CTD).
- 55 At the request of the Negotiating Group on Rules, the WTO Secretariat has prepared a compendium of issues related to PTAs that have been generated by work within the CTRA and discussions in other WTO bodies up to 2002 (see *Compendium of Issues related to Regional Trade Agreements*, Background Note by the Secretariat, TN/RL/W/8/Rev.1, 1 August 2002).
- 56 These figures correspond to notifications of new regional trade agreements, as well as accessions to existing ones.
- 57 Eighty-eight regional trade agreements were considered in the CTRA and four in the Committee on Trade and Development.
- 58 Multilateralism is also considered superior to regionalism because large countries can behave in a more hegemonic way when they negotiate bilaterally with smaller countries.
- 59 See also Davey (2011).
- 60 A similar point is made by Brown and Stern (2011).
- 61 The traditional theory of trade agreements focuses its attention on terms-of-trade effects. In terms-of-trade theory, the motivation for entering into trade agreements depends on whether a country can influence the price of its imports through its trade policy. If two large countries enter into a trade agreement to escape a prisoners' dilemma, this agreement should be multilateral rather than preferential. This is because if they do not extend the benefit of their

- bilateral agreement to any third country through some form of MFN treatment, one or the other of the two large countries could indulge in "bilateral opportunism" by making an agreement with a third party which excluded the other large country partner (World Trade Organization (WTO), 2007).
- 62 Section C presents the Oates decentralization theorem, which provides the economic rationale for the subsidiary principle.
- 63 See the discussion of TBT commitments in PTAs in Baldwin et al. (2009).
- 64 See Davey (2011), the overview of the debate in the WTO's *World Trade Report* (2007) and Marceau and Reiman (2001).
- 65 Both the definition of the "other regulations of commerce" and the question of how the requirement that RTAs should not result in higher barriers against third parties were intensely debated.
- 66 Procedural issues relating to the administration of the PTA provisions of the Enabling Clause have been addressed through the Transparency Mechanism for Regional Trade Agreements.
- 67 Note that in December 2010 the WTO General Council adopted a Transparency Mechanism for Preferential Trade Agreements (WTO document WT/L/806), which extends the Transparency Mechanism for RTAs to non-reciprocal preferences.
- 68 Evenett (2009) emphasizes that the WTO General Council Decision establishing the provisional Transparency Mechanism (WT/L/671) mentions "consideration" rather than "examining" or an "evaluation" of RTAs, which, in his view, suggests that the collective WTO membership does not want this new mechanism to have "teeth".
- 69 Note that some issues, such as for instance those pertaining to the internal coherence of WTO provisions that apply to PTAs, have both a procedural and a substantive or legal dimension.
- 70 See Davey (2011). While there does not appear to have been much consideration of these issues in recent years, there is now a new proposal on the table and discussions have restarted. It remains to be seen whether they will be substantive.
- 71 See the summary of discussions prepared by the WTO Secretariat (TN/RL/W/8/Rev.1).
- 72 For a more detailed economic discussion of the proposals, see *World Trade Report 2007* (World Trade Organization (WTO), 2007).
- 73 See Marceau (2007).
- 74 On the multilateralization of rules of origin, see also Box E.2.
- 75 A "best practice" has alternatively been defined as a rule that allows convergence to some multilateral benchmark. See Plummer (2006) for a possible approach.

F. Conclusions

An over-arching conclusion of this report is that regional and multilateral approaches to trade cooperation need not be incompatible, but neither can they be seen simply as substitutes (i.e. arrangements that serve the same purposes or satisfy the same needs). Support for an increasingly outward-looking and inclusive global trading order has been strong in the period since the end of the Second World War, and this growing trend towards openness has manifested itself through unilateral, bilateral, regional and multilateral approaches.

It is perhaps not surprising that the creation of the multilateral trading system has not diminished the allure of bilateral and regional trade agreements. After all, bilateral trade agreements long pre-dated the multilateral trading system. The appeal of preferential trade agreements (PTAs) has grown in recent decades. This trend has not only been apparent among traditionally active PTA participants but also new players who have eschewed preferential trade agreements in the past. The recent wave of regional agreements has been remarkable for the sheer number of PTAs, their geographical spread, the mix of developed and developing countries involved, and their sectoral coverage.

Many of these agreements go beyond tariff commitments and include provisions on a wide range of behind-the-border or regulatory policy areas. Increasingly, PTAs involve deep rather than shallow integration. Many factors explain the interest in deeper integration, and perhaps why the demand for it has frequently found expression in PTAs. Trade and investment links among countries have been growing to a degree where existing multilateral rules do not go far enough to manage those tighter bonds. The steady reduction of tariff barriers has generated pressure on countries to align divergent national non-tariff policies.

Countries in close geographical proximity to one another are more likely to be affected by one another's trade policy actions, calling for rules tailored to their regional circumstances. Small developing countries may want to import best-practice rules and an institutional framework that has been pre-tested. Large developed countries may want to export their regulatory regimes through PTAs. Countries may use trade cooperation as part of a broader political agenda of shared interests going beyond purely economic considerations.

This report has focused particularly on international production networks as a core explanation for deep integration. This is not to downplay the possible importance of the other, often more complex explanations that elude precise analysis in the absence of adequate data. International production networks function by parcelling out various stages of manufacturing processes to different countries, each of whom has a cost advantage that contributes to the success of the whole. In a world where tariffs are already low, the success of such networks requires that participating countries have the necessary infrastructure, institutional framework and enabling regulations.

Market access can still be a reason for signing PTAs. Even if preferential tariffs are very low, other border measures can be used for protection. While acknowledging this point, the report provides support for the hypothesis that deep PTAs respond in no small measure to the exigencies of international production

networks. This analysis is based on the magnitude of preferential tariff rates, the coverage and contents of the agreements themselves, econometric estimation, and case studies of specific PTAs.

Small margins of preference provide evidence that tariffs are no longer the primary motivation of PTAs. Preference margins (i.e. the difference between the preferential tariff and the most-favoured nation – MFN – rate applied to other trading partners) measured to take account of the presence of other preferential suppliers are no greater than 2 per cent in absolute value for more than 87 per cent of all merchandise trade. This is not surprising in light of the extent to which MFN tariffs have been reduced worldwide. However, in sectors where MFN tariffs are higher than the average, PTAs have for the most part failed to do a better job of reducing them.

Moreover, the proliferation of PTAs implies that the benefit from entering into an agreement need not be substantial given the preferential access enjoyed by other suppliers. As a result of all of this, the value of trade that receives preferential treatment is no more than 16 per cent of global merchandise trade if trade within the EU is excluded from the total, and 30 per cent if intra-EU trade is included. This number is an upper limit, since it does not take account of the extent to which the utilization of those preferential tariffs is hampered by rules of origin and other administrative requirements.

In addition to policy areas already covered by WTO agreements, many recent PTAs include commitments in areas such as competition policy, investment, and movement of capital. For the most part, PTA commitments in these sectors are substantive and legally enforceable. This is certainly true for those policy areas – primarily services, investment, technical barriers to trade and competition policy – which are essential for production networks. The report provides new econometric evidence showing that such provisions increase the degree of production networking among partner countries. Furthermore, a closer examination of the integration experience of some PTAs in Asia and Latin America provides evidence of the role of international production networks in their establishment.

The spread of deep PTAs and the weightier role of non-tariff commitments have important implications for how to evaluate the role of PTAs and how they interact with the multilateral trading system. Viner's (1950) standard analysis of the trade creation and trade diversion effects of preferential tariffs focuses attention on the discriminatory market access effects of PTAs. However, since preferential tariffs are not the main focus of PTAs today, this framework serves less well in identifying the causes and consequences of deep agreements. In the same vein, the building-block/stumbling-block imagery does not

adequately characterize the relationship between PTAs and the multilateral trading system. Trade specialists will need to fashion an improved analytical framework to explain better the evolution of deep PTAs.

The sheer number of PTAs and continuing momentum towards establishing more of them suggest that they are here to stay. They respond to a range of economic and political motivations. Governments will need to find a coherent way of fashioning trade policy at the regional and multilateral level. This means that PTAs and the multilateral trading system can complement each other while ensuring that multilateral disciplines minimize any negative effects from PTAs. If PTAs are about tariffs, a coherent trade policy requires disciplines that reduce trade diversion. If, instead, PTAs are primarily about reducing trade costs and removing regulatory barriers, something different is required to achieve coherence between PTAs and the multilateral trading system. The report has identified a number of ideas relevant to achieving a coherent trade policy in a world of deep PTAs. One such idea is that of subsidiarity, whereby some policy areas may be best addressed at the regional or bilateral level, whereas others will require multilateral attention.

Other ideas advanced for promoting a coherent trade policy are the acceleration of multilateral trade opening, addressing deficiencies in WTO agreements, initiatives to complement the existing legal framework (i.e. soft-law approach), and multilateralizing regionalism (i.e. extension of existing preferential arrangements in a non-discriminatory manner to additional parties). One constraint to bear in mind is the political feasibility of various options. As the report makes clear, GATT contracting parties and WTO members have been tolerant of PTAs and markedly non-litigious on this subject. This suggests that some options may be promoted more readily than others.

We conclude with a non-exhaustive list of possible questions that WTO members may see fit to address as they deal with the problem of creating greater coherence between PTAs and the WTO.

- If some policy areas are to be subject to multilateral review and rule-making while others are left to the regional level, what are the criteria for determining the boundaries?
- Many non-tariff policy commitments in PTAs are largely non-discriminatory, at least in intent, and pose no threat to the multilateral trading system. However, are there other risks (e.g. regulatory locking) associated with these policy areas that are not readily apparent but deserve attention?
- Are the various families of deep PTAs which the report has been able to identify compatible? Or are they competing systems that make the task of creating coherence between PTAs and the multilateral trading system more difficult?
- Given the large number of PTAs between developed and developing countries (North-South agreements), what role do differences in power between these partners play in shaping the design and content of PTAs? Is there a role for the WTO in considering the impact of such differences?
- Will the co-existence of different dispute settlement systems lead to conflicts between PTAs and the WTO? To what extent can potential conflict be addressed either at the level of PTAs or at the WTO?

These are not questions that have easy answers, but the sooner WTO members reflect upon them, the greater the prospects for achieving coherence between PTAs and the WTO.

Statistical appendix

Appendix Table 1: Merchandise exports and imports of plurilateral preferential trade agreements, 2008 (Billion dollars and percentage)

| | World (billion dollars) | Intra-PTA (billion dollars) | Extra-PTA (billion dollars) | Intra-PTA share in total trade | Extra-PTA share in total trade | Intra-PTA share in all commodities | Extra-PTA share in all commodities | Export | Import |
|---|----------------------------|--------------------------------|--------------------------------|-----------------------------------|--------------------------------------|--|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| ANDEAN Community (CAN) | | | | | | | | | | | | | | | | | | | |
| All commodities | 94.3 | 93.3 | 7.0 | 7.8 | 87.3 | 85.5 | 7 | 8 | 93 | 92 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Manufactures | 17.8 | 69.5 | 3.6 | 3.9 | 14.2 | 65.6 | 20 | 6 | 80 | 94 | 52 | 50 | 16 | 77 | | | | | |
| Parts and components | 2.2 | 10.2 | 0.4 | 0.4 | 1.9 | 9.7 | 18 | 4 | 82 | 96 | 6 | 6 | 2 | 11 | | | | | |
| ASEAN Free Trade Area (AFTA) | | | | | | | | | | | | | | | | | | | |
| All commodities | 966.1 | 929.4 | 244.3 | 222.3 | 721.7 | 707.1 | 25 | 24 | 75 | 76 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Manufactures | 603.4 | 598.1 | 152.0 | 125.0 | 451.4 | 473.1 | 25 | 21 | 75 | 79 | 62 | 56 | 63 | 67 | | | | | |
| Parts and components | 247.2 | 254.3 | 68.4 | 57.8 | 178.8 | 196.5 | 28 | 23 | 72 | 77 | 28 | 26 | 25 | 28 | | | | | |
| Asia Pacific Trade Agreement (APTA) | | | | | | | | | | | | | | | | | | | |
| All commodities | 2,042.7 | 1,897.2 | 234.6 | 353.9 | 1,808.1 | 1,543.2 | 11 | 19 | 89 | 81 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Manufactures | 1,815.0 | 1,112.6 | 192.4 | 294.3 | 1,622.6 | 818.3 | 11 | 26 | 89 | 74 | 82 | 83 | 90 | 53 | | | | | |
| Parts and components | 426.8 | 408.2 | 66.8 | 121.4 | 360.0 | 286.8 | 16 | 30 | 84 | 70 | 28 | 34 | 20 | 19 | | | | | |
| Caribbean Community and Common Market (CARICOM) | | | | | | | | | | | | | | | | | | | |
| All commodities | 25.5 | 28.5 | 4.2 | 3.5 | 21.3 | 25.0 | 16 | 12 | 84 | 88 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Manufactures | 5.8 | 14.2 | 0.6 | 0.5 | 5.2 | 13.7 | 10 | 4 | 90 | 96 | 15 | 14 | 25 | 55 | | | | | |
| Parts and components | 0.2 | 1.7 | 0.0 | 0.0 | 0.2 | 1.7 | 12 | 1 | 88 | 99 | 1 | 0 | 1 | 7 | | | | | |
| Central American Common Market (CACM) | | | | | | | | | | | | | | | | | | | |
| All commodities | 24.6 | 44.3 | 5.8 | 4.7 | 18.7 | 39.6 | 24 | 11 | 76 | 89 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Manufactures | 14.0 | 29.2 | 3.7 | 2.8 | 10.3 | 26.4 | 27 | 10 | 73 | 90 | 64 | 60 | 55 | 67 | | | | | |
| Parts and components | 3.4 | 6.8 | 0.4 | 0.3 | 3.0 | 6.5 | 12 | 4 | 88 | 96 | 7 | 6 | 16 | 16 | | | | | |
| Common Market for Eastern and Southern Africa (COMESA) | | | | | | | | | | | | | | | | | | | |
| All commodities | 56.7 | 114.6 | 5.8 | 5.2 | 50.8 | 109.4 | 10 | 5 | 90 | 95 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Manufactures | 16.3 | 70.5 | 2.9 | 2.4 | 13.5 | 68.1 | 18 | 3 | 82 | 97 | 49 | 46 | 26 | 62 | | | | | |
| Parts and components | 1.2 | 13.1 | 0.2 | 0.5 | 1.0 | 12.6 | 17 | 4 | 83 | 96 | 4 | 9 | 2 | 12 | | | | | |
| Commonwealth of Independent States (CIS) | | | | | | | | | | | | | | | | | | | |
| All commodities | 692.5 | 456.1 | 123.1 | 123.3 | 569.4 | 332.8 | 18 | 27 | 82 | 73 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Manufactures | 155.5 | 322.7 | 52.9 | 48.4 | 102.6 | 274.3 | 34 | 15 | 66 | 85 | 43 | 39 | 18 | 82 | | | | | |
| Parts and components | 14.1 | 45.9 | 7.8 | 7.2 | 6.3 | 38.7 | 55 | 16 | 45 | 84 | 6 | 6 | 1 | 12 | | | | | |
| Economic Community of West African States (ECOWAS)^a | | | | | | | | | | | | | | | | | | | |
| All commodities | 70.6 | 57.5 | 5.8 | 5.2 | 64.7 | 52.2 | 8 | 9 | 92 | 91 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Manufactures | 3.7 | 37.9 | 1.4 | 1.3 | 2.3 | 36.6 | 38 | 3 | 62 | 97 | 24 | 25 | 4 | 70 | | | | | |
| Parts and components | 0.2 | 5.2 | 0.1 | 0.6 | 0.2 | 4.6 | 32 | 11 | 68 | 89 | 1 | 11 | 0 | 9 | | | | | |
| Economic Co-operation Organization (ECO) | | | | | | | | | | | | | | | | | | | |
| All commodities | 273.4 | 296.4 | 17.9 | 19.4 | 255.5 | 276.9 | 7 | 7 | 93 | 93 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Manufactures | 129.6 | 173.9 | 9.0 | 4.5 | 120.7 | 169.4 | 7 | 3 | 93 | 97 | 50 | 23 | 47 | 61 | | | | | |
| Parts and components | 21.2 | 34.3 | 1.2 | 0.8 | 20.0 | 33.5 | 6 | 2 | 94 | 98 | 7 | 4 | 8 | 12 | | | | | |
| European Free Trade Association (EFTA) | | | | | | | | | | | | | | | | | | | |
| All commodities | 373.8 | 278.7 | 2.9 | 2.5 | 370.9 | 276.2 | 1 | 1 | 99 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Manufactures | 208.9 | 218.6 | 1.4 | 1.4 | 207.5 | 217.1 | 1 | 1 | 99 | 99 | 49 | 58 | 56 | 79 | | | | | |
| Parts and components | 34.5 | 33.0 | 0.4 | 0.4 | 34.1 | 32.6 | 1 | 1 | 99 | 99 | 12 | 17 | 9 | 12 | | | | | |
| European Union (27) | | | | | | | | | | | | | | | | | | | |
| All commodities | 5,806.4 | 6,082.8 | 3,873.9 | 3,655.2 | 1,932.5 | 2,427.7 | 67 | 60 | 33 | 40 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | |
| Manufactures | 4,416.4 | 4,064.2 | 2,852.0 | 2,661.3 | 1,564.4 | 1,402.9 | 65 | 65 | 35 | 35 | 74 | 73 | 81 | 58 | | | | | |
| Parts and components | 984.6 | 927.4 | 620.4 | 608.3 | 364.2 | 319.1 | 63 | 66 | 37 | 34 | 16 | 17 | 19 | 13 | | | | | |

Appendix Table 1: Merchandise exports and imports of plurilateral preferential trade agreements, 2008 (Billion dollars and percentage) (continued)

| | World | | Intra-PTA | | Extra-PTA | | Intra-PTA share in total trade | | Extra-PTA share in total trade | | Intra-PTA share in all commodities | | Extra-PTA share in all commodities | |
|---|-------------|---------|-------------|--------|-------------|---------|-----------------------------------|--------|--------------------------------------|--------|--|--------|--|--------|
| | Value (b\$) | | Value (b\$) | | Value (b\$) | | Percentage | | Percentage | | Percentage | | Percentage | |
| | Export | Import | Export | Import | Export | Import | Export | Import | Export | Import | Export | Import | Export | Import |
| Global System of Trade Preferences (GSTP)^b | | | | | | | | | | | | | | |
| All commodities | 1,437.4 | 1,486.2 | 271.5 | 330.6 | 1,166.0 | 1,155.7 | 19 | 22 | 81 | 78 | 100 | 100 | 100 | 100 |
| Manufactures | 645.6 | 958.4 | 142.0 | 162.5 | 503.6 | 796.0 | 22 | 17 | 78 | 83 | 52 | 49 | 43 | 69 |
| Parts and components | 146.0 | 266.8 | 28.1 | 32.0 | 117.9 | 234.8 | 19 | 12 | 81 | 88 | 10 | 10 | 10 | 20 |
| Gulf Cooperation Council (GCC) | | | | | | | | | | | | | | |
| All commodities | 703.6 | 366.3 | 16.7 | 25.8 | 686.9 | 340.5 | 2 | 7 | 98 | 93 | 100 | 100 | 100 | 100 |
| Manufactures | 73.3 | 220.6 | 10.6 | 16.2 | 62.7 | 204.5 | 14 | 7 | 86 | 93 | 63 | 63 | 9 | 60 |
| Parts and components | 8.9 | 36.8 | 0.8 | 1.3 | 8.1 | 35.5 | 9 | 4 | 91 | 96 | 5 | 5 | 1 | 10 |
| Latin American Integration Association (LAIA) | | | | | | | | | | | | | | |
| All commodities | 813.9 | 760.0 | 131.7 | 138.2 | 682.2 | 621.9 | 16 | 18 | 84 | 82 | 100 | 100 | 100 | 100 |
| Manufactures | 351.4 | 561.6 | 79.4 | 81.9 | 272.0 | 479.6 | 23 | 15 | 77 | 85 | 60 | 59 | 40 | 77 |
| Parts and components | 75.3 | 156.4 | 13.1 | 13.5 | 62.1 | 142.9 | 17 | 9 | 83 | 91 | 10 | 10 | 9 | 23 |
| North American Free Trade Agreement (NAFTA) | | | | | | | | | | | | | | |
| All commodities | 2,046.9 | 2,882.2 | 1,012.6 | 952.8 | 1,034.3 | 1,929.4 | 49 | 33 | 51 | 67 | 100 | 100 | 100 | 100 |
| Manufactures | 1,400.0 | 1,957.4 | 667.5 | 607.0 | 732.5 | 1,350.4 | 48 | 31 | 52 | 69 | 66 | 64 | 71 | 70 |
| Parts and components | 394.3 | 442.1 | 182.6 | 158.8 | 211.8 | 283.4 | 46 | 36 | 54 | 64 | 18 | 17 | 20 | 15 |
| Pan-Arab Free Trade Area (PAFTA) | | | | | | | | | | | | | | |
| All commodities | 892.0 | 607.1 | 51.0 | 68.7 | 840.9 | 538.5 | 6 | 11 | 94 | 89 | 100 | 100 | 100 | 100 |
| Manufactures | 123.9 | 364.7 | 30.2 | 32.0 | 93.7 | 332.7 | 24 | 9 | 76 | 91 | 59 | 47 | 11 | 62 |
| Parts and components | 15.9 | 65.4 | 4.1 | 3.4 | 11.7 | 62.0 | 26 | 5 | 74 | 95 | 8 | 5 | 1 | 12 |
| South Asian Free Trade Agreement (SAFTA) | | | | | | | | | | | | | | |
| All commodities | 211.0 | 373.6 | 11.9 | 7.6 | 199.1 | 366.0 | 6 | 2 | 94 | 98 | 100 | 100 | 100 | 100 |
| Manufactures | 133.5 | 168.2 | 5.6 | 3.9 | 128.0 | 164.3 | 4 | 2 | 96 | 98 | 47 | 51 | 64 | 45 |
| Parts and components | 23.9 | 29.8 | 2.0 | 0.7 | 21.9 | 29.1 | 8 | 2 | 92 | 98 | 17 | 10 | 11 | 8 |
| Southern Common Market (MERCOSUR) | | | | | | | | | | | | | | |
| All commodities | 278.4 | 248.8 | 48.7 | 44.9 | 229.7 | 203.9 | 17 | 18 | 83 | 82 | 100 | 100 | 100 | 100 |
| Manufactures | 109.9 | 181.6 | 32.9 | 29.8 | 77.1 | 151.8 | 30 | 16 | 70 | 84 | 67 | 66 | 34 | 74 |
| Parts and components | 19.7 | 49.6 | 6.9 | 6.1 | 12.8 | 43.5 | 35 | 12 | 65 | 88 | 14 | 14 | 6 | 21 |
| Memo: MERCOSUR plus Bolivarian Republic of Venezuela | | | | | | | | | | | | | | |
| All commodities | 361.8 | 296.2 | 50.5 | 50.7 | 311.3 | 245.5 | 14 | 17 | 86 | 83 | 100 | 100 | 100 | 100 |
| Manufactures | 113.4 | 219.1 | 32.9 | 33.4 | 80.5 | 185.7 | 29 | 15 | 71 | 85 | 65 | 66 | 26 | 76 |
| Parts and components | 19.9 | 56.5 | 6.9 | 6.6 | 13.0 | 49.9 | 35 | 12 | 65 | 88 | 14 | 13 | 4 | 20 |
| South Pacific Regional Trade and Economic Cooperation Agreement (SPARTECA)^a | | | | | | | | | | | | | | |
| All commodities | 167.1 | 189.3 | 16.0 | 15.7 | 151.1 | 173.6 | 10 | 8 | 90 | 92 | 100 | 100 | 100 | 100 |
| Manufactures | 34.0 | 141.9 | 9.3 | 7.4 | 24.7 | 134.5 | 27 | 5 | 73 | 95 | 58 | 47 | 16 | 77 |
| Parts and components | 6.5 | 22.8 | 1.6 | 1.0 | 4.9 | 21.8 | 24 | 4 | 76 | 96 | 10 | 6 | 3 | 13 |
| Trans-Pacific Strategic Economic Partnership | | | | | | | | | | | | | | |
| All commodities | 435.2 | 416.1 | 3.8 | 3.3 | 431.4 | 412.7 | 1 | 1 | 99 | 99 | 100 | 100 | 100 | 100 |
| Manufactures | 252.8 | 262.0 | 1.9 | 0.8 | 251.0 | 261.1 | 1 | 0 | 99 | 100 | 49 | 25 | 58 | 63 |
| Parts and components | 136.2 | 116.0 | 0.7 | 0.2 | 135.5 | 115.8 | 1 | 0 | 99 | 100 | 20 | 6 | 31 | 28 |

^aFigures refer to 2007 for reasons of data availability.^bIncludes MERCOSUR.

Source: Available reporting countries in the UN Comtrade database.

Appendix Table 2.A: **Merchandise exports of ASEAN countries, 1992-2009**
(Billion dollars and percentage)

| World (billion dollars) | | | | ASEAN Free Trade Area (AFTA) (billion dollars) | | | | Intra-PTA share in total trade | | | | |
|------------------------------|------|-------|-------|---|------|------|-------|--------------------------------|------|------|------|------|
| | 1992 | 2000 | 2008 | 2009 | 1992 | 2000 | 2008 | 2009 | 1992 | 2000 | 2008 | 2009 |
| Cambodia | | | | | | | | | | | | |
| Agricultural products | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.0 | 0.1 | 0.1 | 87 | 66 | 84 | 51 |
| Fuels and mining products | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 97 | - | 97 | - |
| Manufactures | 0.1 | 1.3 | 4.1 | 4.1 | 0.0 | 0.1 | 0.0 | 0.0 | 7 | 5 | 1 | 1 |
| Automotive products | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 76 | 29 | 29 | 59 |
| Office and telecom equipment | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7 | - | 49 | 10 |
| Total merchandise | 0.3 | 1.4 | 4.4 | 4.2 | 0.2 | 0.1 | 0.4 | 0.5 | 67 | 9 | 9 | 12 |
| Indonesia | | | | | | | | | | | | |
| Agricultural products | 5.0 | 7.8 | 32.9 | 25.3 | 1.0 | 1.1 | 4.8 | 4.2 | 19 | 14 | 15 | 17 |
| Fuels and mining products | 12.7 | 18.7 | 50.6 | 43.5 | 0.5 | 2.0 | 9.0 | 8.8 | 4 | 11 | 18 | 20 |
| Manufactures | 16.1 | 35.2 | 52.7 | 46.8 | 2.9 | 7.5 | 13.0 | 11.2 | 18 | 21 | 25 | 24 |
| Automotive products | 0.0 | 0.4 | 2.8 | 1.9 | 0.0 | 0.2 | 1.2 | 0.9 | 34 | 42 | 42 | 50 |
| Office and telecom equipment | 0.8 | 7.3 | 5.8 | 6.1 | 0.2 | 2.6 | 2.3 | 1.9 | 28 | 35 | 39 | 30 |
| Total merchandise | 34.0 | 62.1 | 137.0 | 116.5 | 4.6 | 10.9 | 27.2 | 24.6 | 13 | 18 | 20 | 21 |
| Malaysia | | | | | | | | | | | | |
| Agricultural products | 1.8 | 2.0 | 4.0 | 3.2 | 0.1 | 0.2 | 0.6 | 0.4 | 3 | 9 | 14 | 13 |
| Fuels and mining products | 0.8 | 1.1 | 4.2 | 2.2 | 0.0 | 0.3 | 1.2 | 0.6 | 4 | 25 | 30 | 27 |
| Manufactures | 4.0 | 34.8 | 40.5 | 32.8 | 0.3 | 5.5 | 5.3 | 4.8 | 6 | 16 | 13 | 15 |
| Automotive products | 0.1 | 0.6 | 2.2 | 1.5 | 0.0 | 0.2 | 0.7 | 0.5 | 25 | 28 | 30 | 32 |
| Office and telecom equipment | 1.2 | 25.1 | 25.7 | 20.1 | 0.1 | 4.7 | 3.4 | 3.3 | 7 | 19 | 13 | 16 |
| Total merchandise | 9.8 | 38.1 | 49.1 | 38.4 | 0.6 | 6.0 | 7.1 | 5.8 | 6 | 16 | 14 | 15 |
| Singapore | | | | | | | | | | | | |
| Agricultural products | 4.7 | 3.7 | 7.2 | 6.3 | 0.9 | 1.3 | 2.7 | 2.5 | 18 | 36 | 37 | 41 |
| Fuels and mining products | 9.3 | 11.7 | 67.1 | 44.4 | 3.1 | 4.4 | 28.8 | 18.6 | 34 | 38 | 43 | 42 |
| Manufactures | 48.6 | 117.7 | 236.9 | 198.1 | 10.1 | 31.4 | 74.4 | 58.3 | 21 | 27 | 31 | 29 |
| Automotive products | 0.5 | 0.7 | 3.4 | 2.9 | 0.2 | 0.3 | 1.3 | 1.1 | 45 | 41 | 37 | 38 |
| Office and telecom equipment | 25.7 | 73.8 | 121.0 | 96.6 | 3.0 | 15.9 | 28.8 | 21.8 | 12 | 22 | 24 | 23 |
| Total merchandise | 63.5 | 137.8 | 338.2 | 269.8 | 14.3 | 37.7 | 108.5 | 81.6 | 22 | 27 | 32 | 30 |
| Thailand | | | | | | | | | | | | |
| Agricultural products | 9.9 | 12.2 | 31.7 | 28.0 | 0.9 | 1.8 | 5.9 | 4.9 | 9 | 14 | 19 | 17 |
| Fuels and mining products | 0.5 | 3.0 | 13.6 | 9.4 | 0.2 | 1.4 | 6.3 | 4.7 | 30 | 45 | 46 | 50 |
| Manufactures | 21.7 | 51.7 | 127.2 | 109.4 | 3.3 | 9.8 | 27.3 | 22.9 | 15 | 19 | 21 | 21 |
| Automotive products | 0.1 | 2.4 | 16.2 | 11.7 | 0.0 | 0.4 | 4.4 | 3.5 | 22 | 15 | 27 | 30 |
| Office and telecom equipment | 5.7 | 18.7 | 32.5 | 29.4 | 1.6 | 4.0 | 4.6 | 4.1 | 29 | 21 | 14 | 14 |
| Total merchandise | 32.5 | 68.8 | 175.9 | 152.5 | 4.5 | 13.3 | 39.7 | 32.5 | 14 | 19 | 23 | 21 |

Appendix Table 2.A: **Merchandise exports of ASEAN countries, 1992–2009**
(Billion dollars and percentage) (continued)

| World (billion dollars) | | | | ASEAN Free Trade Area (AFTA) (billion dollars) | | | | Intra-PTA share in total trade | | | |
|--------------------------------|-------|-------|-------|---|------|------|-------|--------------------------------|------|------|------|
| 1992 | 2000 | 2008 | 2009 | 1992 | 2000 | 2008 | 2009 | 1992 | 2000 | 2008 | 2009 |
| Viet Nam | | | | | | | | | | | |
| Agricultural products | 1.0 | 4.0 | 14.6 | 10.7 | 0.3 | 0.5 | 2.2 | 1.9 | 26 | 13 | 15 |
| Fuels and mining products | 0.9 | 3.9 | 13.2 | 9.2 | 0.1 | 1.2 | 3.1 | 2.9 | 9 | 30 | 24 |
| Manufactures | 0.6 | 6.2 | 34.1 | 36.9 | 0.0 | 0.6 | 3.2 | 2.5 | 4 | 9 | 9 |
| Automotive products | 0.0 | 0.0 | 0.5 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 14 | 25 | 9 |
| Office and telecom equipment | 0.0 | 0.7 | 3.3 | 4.6 | 0.0 | 0.1 | 0.7 | 0.6 | 2 | 12 | 20 |
| Total merchandise | 2.6 | 14.5 | 62.7 | 57.1 | 0.4 | 2.2 | 8.6 | 7.4 | 15 | 15 | 14 |
| TOTAL ASEAN^a | | | | | | | | | | | |
| Agricultural products | 31.2 | 37.8 | 118.1 | 94.4 | 5.1 | 6.6 | 20.5 | 17.9 | 16 | 17 | 17 |
| Fuels and mining products | 30.1 | 48.9 | 188.5 | 134.3 | 6.2 | 12.3 | 61.4 | 44.1 | 21 | 25 | 33 |
| Manufactures | 117.3 | 325.8 | 603.3 | 537.4 | 24.5 | 75.8 | 151.2 | 127.5 | 21 | 23 | 25 |
| Automotive products | 0.9 | 4.4 | 26.2 | 19.2 | 0.3 | 1.0 | 8.0 | 6.4 | 34 | 24 | 30 |
| Office and telecom equipment | 46.8 | 177.9 | 236.1 | 214.2 | 8.6 | 40.9 | 49.4 | 43.2 | 18 | 23 | 21 |
| Total merchandise | 183.3 | 420.9 | 966.1 | 795.8 | 36.6 | 96.4 | 242.7 | 192.9 | 20 | 23 | 25 |

^aExcludes Brunei Darusalaam and Myanmar due to insufficient data.

Source: UN Comtrade database and Secretariat estimates.

Appendix Table 2.B: **Merchandise imports of ASEAN countries, 1992-2009**
(Billion dollars and percentage)

| World (billion dollars) | | | | ASEAN Free Trade Area (AFTA) (billion dollars) | | | | Intra-PTA share in total trade | | | | |
|------------------------------|------|-------|-------|---|------|------|------|-----------------------------------|------|------|------|------|
| | 1992 | 2000 | 2008 | 2009 | 1992 | 2000 | 2008 | 2009 | 1992 | 2000 | 2008 | 2009 |
| Cambodia | | | | | | | | | | | | |
| Agricultural products | 0.1 | 0.2 | 0.4 | 0.4 | 0.1 | 0.1 | 0.3 | 0.3 | 92 | 73 | 84 | 83 |
| Fuels and mining products | 0.0 | 0.2 | 0.9 | 0.4 | 0.0 | 0.2 | 0.9 | 0.4 | 93 | 98 | 97 | 93 |
| Manufactures | 0.4 | 1.0 | 3.1 | 3.2 | 0.1 | 0.3 | 1.3 | 1.1 | 38 | 33 | 43 | 34 |
| Automotive products | 0.1 | 0.0 | 0.2 | 0.2 | 0.0 | 0.0 | 0.1 | 0.1 | 16 | 35 | 43 | 33 |
| Office and telecom equipment | 0.0 | 0.0 | 0.2 | 0.2 | 0.0 | 0.0 | 0.1 | 0.1 | 70 | 43 | 38 | 31 |
| Total merchandise | 0.4 | 1.9 | 6.5 | 6.2 | 0.2 | 1.0 | 3.8 | 3.2 | 48 | 52 | 58 | 51 |
| Indonesia | | | | | | | | | | | | |
| Agricultural products | 3.3 | 5.7 | 13.3 | 11.4 | 0.5 | 0.8 | 1.9 | 1.5 | 15 | 13 | 14 | 14 |
| Fuels and mining products | 3.2 | 7.3 | 35.9 | 22.2 | 0.9 | 2.5 | 19.1 | 10.2 | 29 | 35 | 53 | 46 |
| Manufactures | 20.7 | 20.5 | 80.0 | 63.2 | 1.2 | 3.5 | 20.0 | 16.0 | 6 | 17 | 25 | 25 |
| Automotive products | 1.0 | 1.9 | 6.5 | 3.7 | 0.0 | 0.2 | 2.4 | 1.3 | 1 | 13 | 38 | 34 |
| Office and telecom equipment | 1.2 | 0.7 | 11.5 | 8.4 | 0.1 | 0.2 | 3.2 | 2.0 | 11 | 28 | 27 | 24 |
| Total merchandise | 27.3 | 33.5 | 129.2 | 96.8 | 2.6 | 6.8 | 41.0 | 27.7 | 10 | 20 | 32 | 29 |
| Malaysia | | | | | | | | | | | | |
| Agricultural products | 3.0 | 4.6 | 13.4 | 12.3 | 0.8 | 1.3 | 5.7 | 4.9 | 27 | 29 | 42 | 40 |
| Fuels and mining products | 3.0 | 6.4 | 25.1 | 15.6 | 1.5 | 2.8 | 10.5 | 7.2 | 52 | 43 | 42 | 46 |
| Manufactures | 8.6 | 28.8 | 39.0 | 30.8 | 0.6 | 4.5 | 8.7 | 7.2 | 7 | 16 | 22 | 23 |
| Automotive products | 0.6 | 1.0 | 1.7 | 1.7 | 0.0 | 0.1 | 0.9 | 0.9 | 1 | 11 | 51 | 54 |
| Office and telecom equipment | 1.4 | 15.1 | 20.2 | 15.1 | 0.1 | 2.2 | 4.3 | 3.0 | 7 | 15 | 21 | 20 |
| Total merchandise | 15.5 | 37.0 | 60.4 | 45.9 | 1.4 | 5.9 | 15.3 | 11.7 | 9 | 16 | 25 | 25 |
| Singapore | | | | | | | | | | | | |
| Agricultural products | 5.4 | 4.9 | 10.0 | 8.8 | 2.2 | 1.7 | 4.0 | 3.5 | 40 | 35 | 40 | 40 |
| Fuels and mining products | 10.8 | 18.3 | 94.0 | 64.6 | 1.7 | 2.7 | 19.7 | 14.1 | 16 | 15 | 21 | 22 |
| Manufactures | 55.0 | 109.8 | 204.8 | 162.4 | 10.2 | 28.8 | 45.7 | 36.6 | 19 | 26 | 22 | 23 |
| Automotive products | 1.5 | 2.4 | 5.0 | 3.6 | 0.0 | 0.1 | 0.6 | 0.4 | 3 | 4 | 12 | 12 |
| Office and telecom equipment | 17.2 | 54.1 | 87.3 | 67.5 | 5.6 | 20.1 | 26.7 | 21.1 | 32 | 37 | 31 | 31 |
| Total merchandise | 72.2 | 134.5 | 319.8 | 245.8 | 14.1 | 33.3 | 74.8 | 59.0 | 20 | 25 | 23 | 24 |
| Thailand | | | | | | | | | | | | |
| Agricultural products | 4.2 | 4.5 | 11.7 | 9.4 | 0.9 | 0.7 | 2.0 | 1.6 | 21 | 16 | 17 | 18 |
| Fuels and mining products | 4.5 | 9.4 | 46.3 | 30.3 | 1.8 | 1.8 | 9.2 | 7.9 | 40 | 19 | 20 | 26 |
| Manufactures | 30.7 | 47.0 | 114.4 | 90.1 | 2.7 | 8.2 | 20.8 | 17.1 | 9 | 17 | 18 | 19 |
| Automotive products | 2.5 | 2.1 | 6.0 | 4.9 | 0.0 | 0.2 | 1.0 | 0.7 | 1 | 7 | 16 | 15 |
| Office and telecom equipment | 4.8 | 14.1 | 22.3 | 20.3 | 1.2 | 4.0 | 6.1 | 5.5 | 26 | 28 | 28 | 27 |
| Total merchandise | 40.7 | 61.9 | 178.6 | 133.8 | 5.6 | 11.0 | 32.2 | 26.8 | 14 | 18 | 18 | 20 |

Appendix Table 2.B: Merchandise imports of ASEAN countries, 1992-2009
(Billion dollars and percentage) (continued)

| World (billion dollars) | | | | ASEAN Free Trade Area (AFTA) (billion dollars) | | | | Intra-PTA share in total trade | | | |
|--------------------------------|-------|-------|-------|---|------|------|-------|-----------------------------------|------|------|------|
| 1992 | 2000 | 2008 | 2009 | 1992 | 2000 | 2008 | 2009 | 1992 | 2000 | 2008 | 2009 |
| Viet Nam | | | | | | | | | | | |
| Agricultural products | 0.2 | 1.3 | 7.9 | 9.3 | 0.0 | 0.5 | 2.2 | 2.1 | 21 | 38 | 28 |
| Fuels and mining products | 0.2 | 2.5 | 15.5 | 9.2 | 0.1 | 1.3 | 6.9 | 3.6 | 60 | 54 | 44 |
| Manufactures | 2.1 | 11.4 | 54.2 | 50.5 | 0.4 | 2.5 | 10.5 | 9.7 | 17 | 22 | 19 |
| Automotive products | 0.2 | 0.3 | 2.4 | 3.3 | 0.0 | 0.0 | 0.4 | 0.4 | 6 | 9 | 18 |
| Office and telecom equipment | 0.3 | 1.0 | 5.6 | 6.0 | 0.0 | 0.4 | 1.4 | 1.4 | 7 | 36 | 26 |
| Total merchandise | 2.5 | 15.6 | 80.7 | 69.9 | 0.5 | 4.4 | 19.8 | 15.6 | 21 | 28 | 25 |
| TOTAL ASEAN^a | | | | | | | | | | | |
| Agricultural products | 17.9 | 24.3 | 63.6 | 57.1 | 4.6 | 5.6 | 18.7 | 15.9 | 16 | 17 | 17 |
| Fuels and mining products | 24.5 | 49.1 | 231.9 | 151.5 | 6.6 | 12.2 | 70.1 | 46.0 | 21 | 25 | 33 |
| Manufactures | 150.4 | 286.6 | 597.6 | 493.1 | 21.0 | 62.9 | 125.7 | 106.1 | 21 | 23 | 25 |
| Automotive products | 7.1 | 9.5 | 25.8 | 21.4 | 0.1 | 0.7 | 6.9 | 5.2 | 34 | 24 | 30 |
| Office and telecom equipment | 33.5 | 117.5 | 181.5 | 153.8 | 9.2 | 35.1 | 46.9 | 39.3 | 18 | 23 | 21 |
| Total merchandise | 198.4 | 365.9 | 931.5 | 722.0 | 32.8 | 82.1 | 224.6 | 175.1 | 20 | 23 | 25 |

^aExcludes Brunei Darusalaam and Myanmar due to insufficient data.

Source: UN Comtrade database and Secretariat estimates.

Appendix Table 3.A: **Merchandise exports of CIS countries, 2000-2009**
(Billion dollars and percentage)

| World (billion dollars) | | | | Commonwealth of Independent States (CIS) (billion dollars) | | | | Intra-PTA share in total trade | | | | |
|----------------------------|-------|-------|-------|---|------|------|------|-----------------------------------|------|------|------|------|
| | 2000 | 2007 | 2008 | 2009 | 2000 | 2007 | 2008 | 2009 | 2000 | 2007 | 2008 | 2009 |
| Armenia | | | | | | | | | | | | |
| Agricultural products | 0.0 | 0.2 | 0.2 | 0.1 | 0.0 | 0.2 | 0.2 | 0.1 | 86 | 84 | 86 | 80 |
| Fuels and mining products | 0.1 | 0.3 | 0.3 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 14 | 4 | 2 | 1 |
| Manufactures | 0.2 | 0.6 | 0.6 | 0.3 | 0.0 | 0.2 | 0.1 | 0.1 | 15 | 25 | 24 | 28 |
| Total merchandise | 0.3 | 1.1 | 1.1 | 0.7 | 0.1 | 0.3 | 0.3 | 0.2 | 23 | 29 | 31 | 26 |
| Azerbaijan | | | | | | | | | | | | |
| Agricultural products | 0.1 | 0.5 | 0.6 | 0.5 | 0.0 | 0.5 | 0.5 | 0.5 | 37 | 85 | 94 | 83 |
| Fuels and mining products | 1.5 | 5.1 | 46.6 | 13.7 | 0.1 | 0.4 | 0.6 | 0.7 | 9 | 7 | 1 | 5 |
| Manufactures | 0.1 | 0.4 | 0.6 | 0.4 | 0.1 | 0.2 | 0.5 | 0.3 | 61 | 63 | 71 | 76 |
| Total merchandise | 1.7 | 6.1 | 47.8 | 14.7 | 0.2 | 1.1 | 1.6 | 1.5 | 13 | 18 | 3 | 10 |
| Belarus | | | | | | | | | | | | |
| Agricultural products | 0.8 | 2.2 | 2.6 | 2.6 | 0.6 | 1.7 | 2.2 | 2.1 | 74 | 75 | 85 | 82 |
| Fuels and mining products | 1.5 | 8.7 | 12.5 | 8.1 | 0.5 | 0.6 | 1.6 | 1.2 | 32 | 7 | 13 | 15 |
| Manufactures | 4.8 | 12.9 | 17.2 | 10.1 | 3.3 | 8.5 | 10.1 | 5.6 | 69 | 66 | 59 | 56 |
| Total merchandise | 7.3 | 24.3 | 32.9 | 21.3 | 4.4 | 11.2 | 14.4 | 9.3 | 60 | 46 | 44 | 44 |
| Georgia | | | | | | | | | | | | |
| Agricultural products | 0.1 | 0.3 | 0.3 | 0.3 | 0.1 | 0.2 | 0.2 | 0.2 | 62 | 54 | 66 | 51 |
| Fuels and mining products | 0.1 | 0.3 | 0.3 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 10 | 5 | 6 | 3 |
| Manufactures | 0.1 | 0.5 | 0.8 | 0.4 | 0.1 | 0.3 | 0.3 | 0.1 | 53 | 50 | 44 | 22 |
| Total merchandise | 0.3 | 1.2 | 1.5 | 1.6 | 0.1 | 0.5 | 0.5 | 0.3 | 40 | 37 | 36 | 18 |
| Kazakhstan | | | | | | | | | | | | |
| Agricultural products | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.1 | 60 | 66 | 70 | 68 |
| Fuels and mining products | 0.1 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 73 | 37 | 68 | 85 |
| Manufactures | 0.1 | 0.4 | 0.4 | 0.2 | 0.1 | 0.3 | 0.3 | 0.2 | 69 | 85 | 88 | 85 |
| Total merchandise | 0.5 | 1.1 | 1.6 | 1.2 | 0.2 | 0.6 | 0.8 | 0.5 | 41 | 50 | 48 | 42 |
| Rep. of Moldova | | | | | | | | | | | | |
| Agricultural products | 0.3 | 0.5 | 0.6 | 0.6 | 0.2 | 0.3 | 0.3 | 0.3 | 74 | 53 | 55 | 55 |
| Fuels and mining products | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 23 | 42 | 51 | 7 |
| Manufactures | 0.2 | 0.7 | 0.9 | 0.7 | 0.1 | 0.2 | 0.2 | 0.2 | 33 | 33 | 28 | 25 |
| Total merchandise | 0.5 | 1.3 | 1.6 | 1.3 | 0.3 | 0.6 | 0.6 | 0.5 | 58 | 41 | 39 | 39 |
| Russian Federation | | | | | | | | | | | | |
| Agricultural products | 4.5 | 18.3 | 18.1 | 15.9 | 0.5 | 3.7 | 4.6 | 3.7 | 11 | 20 | 25 | 23 |
| Fuels and mining products | 61.6 | 245.2 | 332.9 | 206.0 | 1.9 | 12.0 | 18.1 | 8.4 | 3 | 5 | 5 | 4 |
| Manufactures | 24.4 | 60.3 | 78.6 | 49.3 | 3.5 | 17.7 | 21.0 | 12.8 | 14 | 29 | 27 | 26 |
| Total merchandise | 103.1 | 352.3 | 468.0 | 301.8 | 13.8 | 51.1 | 69.9 | 46.9 | 13 | 15 | 15 | 16 |

Appendix Table 3.A: **Merchandise exports of CIS countries, 2000-2009**
(Billion dollars and percentage) (continued)

| World (billion dollars) | | | | Commonwealth of Independent States (CIS) (billion dollars) | | | | Intra-PTA share in total trade | | | |
|------------------------------|-------|-------|-------|---|------|------|-------|-----------------------------------|------|------|------|
| 2000 | 2007 | 2008 | 2009 | 2000 | 2007 | 2008 | 2009 | 2000 | 2007 | 2008 | 2009 |
| Ukraine | | | | | | | | | | | |
| Agricultural products | 1.6 | 6.8 | 11.3 | 9.9 | 0.8 | 2.7 | 3.7 | 2.7 | 48 | 39 | 33 |
| Fuels and mining products | 2.9 | 5.8 | 8.7 | 4.9 | 0.6 | 1.4 | 2.4 | 1.5 | 21 | 24 | 28 |
| Manufactures | 9.8 | 36.2 | 46.6 | 24.6 | 3.1 | 14.3 | 17.6 | 9.6 | 32 | 39 | 38 |
| Total merchandise | 14.6 | 49.3 | 67.0 | 39.7 | 4.5 | 18.6 | 23.8 | 13.9 | 31 | 38 | 36 |
| TOTAL CIS^a | | | | | | | | | | | |
| Agricultural products | 8.6 | 31.4 | 37.1 | 31.9 | 2.8 | 10.5 | 13.3 | 10.6 | 32 | 33 | 36 |
| Fuels and mining products | 76.6 | 304.4 | 459.1 | 268.9 | 6.2 | 19.3 | 29.8 | 16.3 | 8 | 6 | 6 |
| Manufactures | 41.3 | 118.4 | 155.5 | 91.8 | 10.5 | 43.8 | 52.9 | 30.4 | 25 | 37 | 34 |
| Total merchandise | 140.2 | 484.5 | 692.5 | 425.4 | 27.6 | 91.9 | 123.1 | 79.9 | 20 | 19 | 18 |
| | | | | | | | | | | | 19 |

^aExcludes Tajikistan and Turkmenistan due to insufficient data.

Source: UN Comtrade database and Secretariat estimates.

Appendix Table 3.B: **Merchandise imports of CIS countries, 2000-2009**
(Billion dollars and percentage)

| World (billion dollars) | | | | Commonwealth of Independent States (CIS) (billion dollars) | | | | Intra-PTA share in total trade | | | | |
|----------------------------|------|-------|-------|---|------|------|------|-----------------------------------|------|------|------|------|
| | 2000 | 2007 | 2008 | 2009 | 2000 | 2007 | 2008 | 2009 | 2000 | 2007 | 2008 | 2009 |
| Armenia | | | | | | | | | | | | |
| Agricultural products | 0.2 | 0.6 | 0.8 | 0.6 | 0.0 | 0.3 | 0.4 | 0.3 | 9 | 54 | 46 | 51 |
| Fuels and mining products | 0.2 | 0.6 | 0.7 | 0.6 | 0.1 | 0.4 | 0.4 | 0.4 | 55 | 64 | 54 | 65 |
| Manufactures | 0.4 | 1.8 | 2.4 | 1.9 | 0.0 | 0.4 | 0.5 | 0.3 | 9 | 22 | 21 | 19 |
| Total merchandise | 0.8 | 3.1 | 4.1 | 3.2 | 0.2 | 1.1 | 1.3 | 1.1 | 19 | 35 | 31 | 34 |
| Azerbaijan | | | | | | | | | | | | |
| Agricultural products | 0.2 | 1.0 | 1.2 | 1.0 | 0.1 | 0.6 | 0.8 | 0.6 | 55 | 62 | 64 | 57 |
| Fuels and mining products | 0.1 | 0.3 | 0.3 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 34 | 46 | 32 | 44 |
| Manufactures | 0.8 | 4.4 | 5.6 | 4.8 | 0.2 | 1.1 | 1.5 | 1.2 | 25 | 26 | 26 | 24 |
| Total merchandise | 1.2 | 5.7 | 7.2 | 6.1 | 0.4 | 1.9 | 2.3 | 1.9 | 32 | 33 | 33 | 31 |
| Belarus | | | | | | | | | | | | |
| Agricultural products | 1.2 | 2.5 | 3.4 | 2.6 | 0.6 | 1.3 | 1.7 | 1.2 | 51 | 54 | 49 | 46 |
| Fuels and mining products | 2.9 | 11.1 | 15.4 | 12.1 | 2.8 | 10.9 | 15.2 | 11.9 | 98 | 98 | 98 | 99 |
| Manufactures | 4.1 | 13.9 | 19.2 | 12.9 | 2.4 | 6.3 | 8.6 | 4.8 | 59 | 45 | 45 | 37 |
| Total merchandise | 8.6 | 28.7 | 39.5 | 28.6 | 6.0 | 19.0 | 26.1 | 18.2 | 70 | 66 | 66 | 64 |
| Georgia | | | | | | | | | | | | |
| Agricultural products | 0.2 | 0.8 | 1.0 | 0.9 | 0.0 | 0.5 | 0.5 | 0.5 | 18 | 55 | 55 | 53 |
| Fuels and mining products | 0.1 | 1.0 | 1.2 | 0.8 | 0.1 | 0.7 | 0.8 | 0.4 | 86 | 72 | 68 | 52 |
| Manufactures | 0.4 | 3.1 | 3.8 | 2.3 | 0.1 | 0.6 | 0.6 | 0.3 | 19 | 18 | 17 | 14 |
| Total merchandise | 0.7 | 5.2 | 6.1 | 4.2 | 0.2 | 1.7 | 2.0 | 1.2 | 32 | 33 | 33 | 29 |
| Kazakhstan | | | | | | | | | | | | |
| Agricultural products | 0.1 | 0.4 | 0.6 | 0.5 | 0.0 | 0.3 | 0.5 | 0.4 | 51 | 76 | 79 | 75 |
| Fuels and mining products | 0.1 | 0.8 | 0.3 | 0.1 | 0.1 | 0.8 | 0.3 | 0.1 | 97 | 98 | 96 | 96 |
| Manufactures | 0.3 | 1.2 | 1.8 | 1.5 | 0.1 | 0.4 | 0.5 | 0.4 | 37 | 35 | 27 | 29 |
| Total merchandise | 0.6 | 2.4 | 4.1 | 3.0 | 0.3 | 1.5 | 2.2 | 1.7 | 54 | 63 | 54 | 56 |
| Rep. of Moldova | | | | | | | | | | | | |
| Agricultural products | 0.1 | 0.5 | 0.7 | 0.5 | 0.0 | 0.3 | 0.3 | 0.3 | 14 | 51 | 50 | 50 |
| Fuels and mining products | 0.3 | 0.8 | 1.1 | 0.7 | 0.2 | 0.6 | 0.8 | 0.5 | 65 | 68 | 68 | 67 |
| Manufactures | 0.4 | 2.4 | 3.0 | 2.0 | 0.1 | 0.5 | 0.6 | 0.4 | 19 | 22 | 20 | 19 |
| Total merchandise | 0.8 | 3.7 | 4.9 | 3.3 | 0.3 | 1.3 | 1.7 | 1.1 | 34 | 36 | 35 | 35 |
| Russian Federation | | | | | | | | | | | | |
| Agricultural products | 7.6 | 26.9 | 34.3 | 29.1 | 2.1 | 3.1 | 3.9 | 3.0 | 27 | 12 | 11 | 10 |
| Fuels and mining products | 3.5 | 7.5 | 10.9 | 6.0 | 2.1 | 4.2 | 6.3 | 3.6 | 58 | 57 | 58 | 60 |
| Manufactures | 18.9 | 154.2 | 208.3 | 122.0 | 3.3 | 13.1 | 15.5 | 8.1 | 17 | 9 | 7 | 7 |
| Total merchandise | 33.9 | 199.7 | 267.1 | 170.8 | 11.6 | 29.8 | 36.6 | 21.8 | 34 | 15 | 14 | 13 |

Appendix Table 3.B: Merchandise imports of CIS countries, 2000-2009
(Billion dollars and percentage) (continued)

| | World (billion dollars) | | | | Commonwealth of Independent States (CIS) (billion dollars) | | | | Intra-PTA share in total trade | | | |
|------------------------------|----------------------------|-------|-------|-------|---|------|-------|------|-----------------------------------|------|------|------|
| | 2000 | 2007 | 2008 | 2009 | 2000 | 2007 | 2008 | 2009 | 2000 | 2007 | 2008 | 2009 |
| Ukraine | | | | | | | | | | | | |
| Agricultural products | 1.1 | 4.6 | 7.0 | 5.3 | 0.3 | 1.1 | 1.3 | 0.9 | 24 | 24 | 19 | 18 |
| Fuels and mining products | 6.7 | 18.1 | 26.4 | 16.0 | 6.0 | 15.6 | 21.2 | 14.1 | 88 | 86 | 80 | 88 |
| Manufactures | 5.7 | 37.4 | 50.6 | 23.7 | 1.8 | 8.7 | 10.9 | 4.7 | 31 | 23 | 22 | 20 |
| Total merchandise | 14.0 | 60.6 | 85.4 | 45.4 | 8.0 | 25.6 | 33.6 | 19.8 | 58 | 42 | 39 | 44 |
| TOTAL CIS^a | | | | | | | | | | | | |
| Agricultural products | 11.5 | 39.8 | 52.1 | 43.2 | 3.6 | 9.2 | 11.3 | 8.8 | 31 | 23 | 22 | 20 |
| Fuels and mining products | 15.0 | 44.3 | 62.4 | 39.7 | 12.3 | 37.1 | 50.6 | 33.9 | 82 | 84 | 81 | 86 |
| Manufactures | 36.5 | 244.3 | 322.7 | 193.8 | 10.6 | 40.3 | 48.4 | 27.9 | 29 | 16 | 15 | 14 |
| Total merchandise | 67.9 | 341.8 | 456.1 | 293.0 | 30.8 | 96.5 | 123.3 | 78.9 | 45 | 28 | 27 | 27 |

^aExcludes Tajikistan and Turkmenistan due to insufficient data.

Source: UN Comtrade database and Secretariat estimates.

Appendix Table 4.A: **Merchandise exports of European Union (15) countries, 1990-2009**
(Billion dollars and percentage)

| | World (billion dollars) | | | | European Union (15) (billion dollars) | | | | Intra-PTA share in total trade | | | |
|----------------------------|----------------------------|-------|---------|---------|--|-------|-------|-------|-----------------------------------|------|------|------|
| | 1990 | 2000 | 2008 | 2009 | 1990 | 2000 | 2008 | 2009 | 1990 | 2000 | 2008 | 2009 |
| Austria | | | | | | | | | | | | |
| Agricultural products | 3.2 | 4.5 | 14.2 | 11.9 | 2.1 | 3.3 | 8.8 | 7.3 | 66 | 72 | 62 | 62 |
| Fuels and mining products | 1.8 | 2.4 | 11.6 | 8.6 | 1.4 | 1.6 | 4.8 | 3.6 | 80 | 65 | 42 | 43 |
| Manufactures | 36.8 | 50.5 | 139.5 | 105.4 | 24.8 | 30.6 | 72.8 | 55.5 | 68 | 61 | 52 | 53 |
| Total merchandise | 41.9 | 63.7 | 172.2 | 131.4 | 28.4 | 38.8 | 93.8 | 72.1 | 68 | 61 | 54 | 55 |
| Belgium^a | | | | | | | | | | | | |
| Agricultural products | 13.1 | 19.4 | 47.1 | 40.5 | 11.4 | 16.5 | 38.6 | 33.5 | 87 | 85 | 82 | 83 |
| Fuels and mining products | 9.1 | 13.3 | 59.6 | 36.1 | 7.0 | 10.0 | 46.1 | 26.5 | 77 | 76 | 77 | 73 |
| Manufactures | 91.2 | 144.1 | 358.6 | 284.0 | 71.2 | 105.0 | 254.7 | 199.6 | 78 | 73 | 71 | 70 |
| Total merchandise | 118.3 | 184.8 | 477.2 | 370.0 | 92.9 | 136.9 | 346.8 | 265.5 | 79 | 74 | 73 | 72 |
| Denmark | | | | | | | | | | | | |
| Agricultural products | 10.6 | 10.9 | 22.6 | 19.8 | 7.4 | 6.9 | 13.4 | 11.9 | 70 | 63 | 59 | 60 |
| Fuels and mining products | 1.6 | 3.9 | 13.1 | 8.4 | 1.4 | 3.4 | 11.1 | 6.8 | 87 | 87 | 84 | 80 |
| Manufactures | 20.9 | 31.5 | 73.2 | 59.6 | 13.6 | 19.1 | 39.7 | 31.6 | 65 | 61 | 54 | 53 |
| Total merchandise | 34.8 | 49.1 | 115.7 | 92.5 | 22.6 | 29.8 | 67.5 | 52.1 | 65 | 61 | 58 | 56 |
| Finland | | | | | | | | | | | | |
| Agricultural products | 3.2 | 3.6 | 6.4 | 4.1 | 2.1 | 2.3 | 3.1 | 1.9 | 65 | 62 | 49 | 45 |
| Fuels and mining products | 1.3 | 3.0 | 10.8 | 6.2 | 1.1 | 2.1 | 6.2 | 3.5 | 83 | 69 | 57 | 56 |
| Manufactures | 22.0 | 38.5 | 78.5 | 48.4 | 13.0 | 20.1 | 34.1 | 21.6 | 59 | 52 | 43 | 45 |
| Total merchandise | 26.6 | 45.5 | 96.9 | 62.9 | 16.2 | 24.5 | 45.6 | 29.7 | 61 | 54 | 47 | 47 |
| France | | | | | | | | | | | | |
| Agricultural products | 37.1 | 35.6 | 73.7 | 61.6 | 27.3 | 25.3 | 51.3 | 42.7 | 74 | 71 | 70 | 69 |
| Fuels and mining products | 10.8 | 13.9 | 45.6 | 25.5 | 7.8 | 9.6 | 31.1 | 16.7 | 73 | 69 | 68 | 65 |
| Manufactures | 161.3 | 238.9 | 460.3 | 364.4 | 101.8 | 145.0 | 254.9 | 197.7 | 63 | 61 | 55 | 54 |
| Total merchandise | 210.0 | 295.3 | 594.5 | 464.1 | 137.5 | 184.3 | 346.7 | 264.6 | 65 | 62 | 58 | 57 |
| Germany | | | | | | | | | | | | |
| Agricultural products | 23.5 | 27.8 | 81.7 | 72.1 | 17.5 | 19.1 | 54.7 | 48.1 | 74 | 69 | 67 | 67 |
| Fuels and mining products | 15.1 | 21.3 | 82.8 | 50.8 | 10.7 | 11.6 | 44.5 | 27.4 | 71 | 54 | 54 | 54 |
| Manufactures | 354.4 | 459.4 | 1,201.0 | 917.5 | 224.4 | 243.5 | 581.1 | 454.2 | 63 | 53 | 48 | 50 |
| Total merchandise | 398.4 | 549.6 | 1,466.1 | 1,127.8 | 255.1 | 311.1 | 761.5 | 584.8 | 64 | 57 | 52 | 52 |
| Greece | | | | | | | | | | | | |
| Agricultural products | 2.6 | 2.7 | 5.9 | 5.6 | 1.8 | 1.4 | 3.0 | 2.9 | 71 | 53 | 51 | 51 |
| Fuels and mining products | 1.2 | 2.4 | 5.2 | 3.4 | 0.7 | 0.7 | 2.0 | 1.3 | 57 | 27 | 38 | 37 |
| Manufactures | 4.3 | 5.4 | 13.7 | 10.7 | 3.0 | 2.4 | 5.1 | 3.9 | 70 | 44 | 37 | 37 |
| Total merchandise | 8.1 | 10.8 | 25.5 | 20.1 | 5.5 | 4.8 | 10.5 | 8.2 | 68 | 44 | 41 | 41 |
| Ireland | | | | | | | | | | | | |
| Agricultural products | 5.7 | 6.7 | 12.9 | 10.7 | 4.4 | 4.8 | 9.8 | 8.4 | 77 | 72 | 76 | 78 |
| Fuels and mining products | 0.6 | 0.9 | 2.6 | 1.8 | 0.5 | 0.6 | 2.2 | 1.3 | 83 | 69 | 83 | 71 |
| Manufactures | 16.4 | 65.5 | 107.5 | 99.9 | 13.0 | 39.5 | 61.9 | 56.9 | 79 | 60 | 58 | 57 |
| Total merchandise | 23.8 | 76.3 | 127.1 | 116.9 | 18.6 | 47.0 | 76.4 | 68.8 | 78 | 62 | 60 | 59 |

Appendix Table 4.A: Merchandise exports of European Union (15) countries, 1990-2009
(Billion dollars and percentage) (continued)

| | World (billion dollars) | | | | European Union (15) (billion dollars) | | | | Intra-PTA share in total trade | | | |
|---------------------------|----------------------------|---------|---------|---------|--|---------|---------|---------|-----------------------------------|------|------|------|
| | 1990 | 2000 | 2008 | 2009 | 1990 | 2000 | 2008 | 2009 | 1990 | 2000 | 2008 | 2009 |
| Italy | | | | | | | | | | | | |
| Agricultural products | 11.9 | 16.3 | 40.0 | 35.3 | 8.3 | 10.6 | 24.5 | 21.9 | 70 | 65 | 61 | 62 |
| Fuels and mining products | 6.3 | 8.2 | 35.6 | 21.4 | 3.4 | 3.9 | 15.1 | 9.1 | 54 | 47 | 43 | 42 |
| Manufactures | 148.1 | 212.0 | 449.3 | 333.9 | 92.9 | 117.2 | 218.3 | 158.7 | 63 | 55 | 49 | 48 |
| Total merchandise | 168.6 | 239.9 | 541.8 | 405.2 | 105.8 | 131.9 | 264.1 | 195.4 | 63 | 55 | 49 | 48 |
| Luxembourg | | | | | | | | | | | | |
| Agricultural products | - | 0.6 | 1.2 | 1.2 | - | 0.6 | 1.2 | 1.2 | - | 98 | 98 | 98 |
| Fuels and mining products | - | 0.4 | 1.2 | 0.8 | - | 0.3 | 1.0 | 0.6 | - | 76 | 85 | 83 |
| Manufactures | - | 6.5 | 14.5 | 10.6 | - | 5.4 | 11.6 | 8.1 | - | 83 | 80 | 76 |
| Total merchandise | - | 7.9 | 17.7 | 12.8 | - | 6.5 | 14.2 | 10.1 | - | 83 | 80 | 79 |
| Netherlands | | | | | | | | | | | | |
| Agricultural products | 31.9 | 32.9 | 84.5 | 75.8 | 26.4 | 25.1 | 63.0 | 56.2 | 83 | 76 | 75 | 74 |
| Fuels and mining products | 16.5 | 21.8 | 71.3 | 43.8 | 14.1 | 19.2 | 48.3 | 26.2 | 86 | 88 | 68 | 60 |
| Manufactures | 77.8 | 124.9 | 301.1 | 242.3 | 58.7 | 83.1 | 201.0 | 160.8 | 75 | 66 | 67 | 66 |
| Total merchandise | 131.5 | 213.4 | 545.9 | 431.5 | 99.3 | 164.7 | 386.0 | 299.2 | 76 | 77 | 71 | 69 |
| Portugal | | | | | | | | | | | | |
| Agricultural products | 2.2 | 2.5 | 6.4 | 5.9 | 1.7 | 1.9 | 4.5 | 4.2 | 77 | 77 | 71 | 71 |
| Fuels and mining products | 1.1 | 1.1 | 5.1 | 3.3 | 0.6 | 0.7 | 2.9 | 1.6 | 60 | 61 | 57 | 48 |
| Manufactures | 13.1 | 20.6 | 39.9 | 30.8 | 10.9 | 16.9 | 28.5 | 22.6 | 83 | 82 | 72 | 73 |
| Total merchandise | 16.4 | 24.3 | 55.9 | 43.4 | 13.2 | 19.5 | 37.0 | 30.5 | 81 | 80 | 66 | 70 |
| Spain | | | | | | | | | | | | |
| Agricultural products | 9.4 | 16.9 | 42.9 | 38.0 | 7.0 | 13.1 | 32.4 | 29.0 | 75 | 78 | 76 | 76 |
| Fuels and mining products | 4.0 | 6.7 | 26.2 | 16.4 | 2.2 | 3.2 | 10.6 | 6.2 | 55 | 48 | 40 | 38 |
| Manufactures | 41.4 | 87.8 | 203.5 | 162.2 | 30.3 | 62.0 | 132.9 | 106.1 | 73 | 71 | 65 | 65 |
| Total merchandise | 55.6 | 113.3 | 279.2 | 223.1 | 39.8 | 78.9 | 177.2 | 142.6 | 72 | 70 | 63 | 64 |
| Sweden | | | | | | | | | | | | |
| Agricultural products | 5.4 | 6.3 | 14.1 | 11.8 | 3.9 | 4.3 | 8.9 | 7.4 | 72 | 68 | 63 | 62 |
| Fuels and mining products | 3.7 | 4.9 | 20.9 | 12.9 | 2.8 | 3.4 | 14.2 | 8.4 | 75 | 70 | 68 | 65 |
| Manufactures | 47.3 | 71.1 | 137.4 | 98.9 | 28.6 | 37.3 | 70.1 | 49.3 | 61 | 53 | 51 | 50 |
| Total merchandise | 57.3 | 86.9 | 183.9 | 131.1 | 35.8 | 48.6 | 98.9 | 69.2 | 63 | 56 | 54 | 53 |
| United Kingdom | | | | | | | | | | | | |
| Agricultural products | 15.0 | 16.5 | 29.0 | 25.3 | 8.9 | 9.7 | 18.0 | 15.8 | 60 | 59 | 62 | 62 |
| Fuels and mining products | 19.8 | 30.4 | 81.5 | 50.1 | 13.3 | 19.0 | 51.3 | 31.7 | 67 | 63 | 63 | 63 |
| Manufactures | 146.7 | 218.0 | 321.2 | 253.1 | 80.4 | 124.0 | 161.3 | 123.2 | 55 | 57 | 50 | 49 |
| Total merchandise | 185.5 | 282.9 | 457.7 | 351.2 | 103.3 | 160.5 | 242.6 | 180.8 | 56 | 57 | 53 | 51 |
| TOTAL EU (15) | | | | | | | | | | | | |
| Agricultural products | 174.7 | 203.3 | 482.6 | 419.7 | 130.3 | 144.9 | 335.4 | 292.3 | 75 | 71 | 69 | 70 |
| Fuels and mining products | 92.9 | 134.6 | 473.2 | 289.4 | 67.1 | 89.3 | 291.3 | 170.8 | 72 | 66 | 62 | 59 |
| Manufactures | 1,181.7 | 1,774.7 | 3,899.1 | 3,021.7 | 766.6 | 1,051.1 | 2,127.8 | 1,649.8 | 65 | 59 | 55 | 55 |
| Total merchandise | 1,476.8 | 2,243.8 | 5,157.3 | 3,983.9 | 974.0 | 1,387.9 | 2,968.7 | 2,273.8 | 66 | 62 | 58 | 57 |

^aBelgium refers to Belgium-Luxembourg in 1990.

Source: UN Comtrade database and Secretariat estimates.

Appendix Table 4.B: **Merchandise imports of European Union (15) countries, 1990-2009**
(Billion dollars and percentage)

| | World (billion dollars) | | | | European Union (15) (billion dollars) | | | | Intra-PTA share in total trade | | | |
|----------------------------|----------------------------|-------|---------|-------|--|-------|-------|-------|-----------------------------------|------|------|------|
| | 1990 | 2000 | 2008 | 2009 | 1990 | 2000 | 2008 | 2009 | 1990 | 2000 | 2008 | 2009 |
| Austria | | | | | | | | | | | | |
| Agricultural products | 4.2 | 5.5 | 15.4 | 13.5 | 2.4 | 3.8 | 10.4 | 9.2 | 56 | 70 | 68 | 68 |
| Fuels and mining products | 5.0 | 5.6 | 29.4 | 19.1 | 1.8 | 2.6 | 11.6 | 8.1 | 35 | 46 | 39 | 42 |
| Manufactures | 40.7 | 55.6 | 127.0 | 100.4 | 31.3 | 38.2 | 83.4 | 65.2 | 77 | 69 | 66 | 65 |
| Total merchandise | 50.0 | 68.4 | 175.0 | 136.4 | 35.6 | 45.1 | 107.5 | 84.1 | 71 | 66 | 61 | 62 |
| Belgium^a | | | | | | | | | | | | |
| Agricultural products | 14.7 | 18.1 | 44.0 | 37.5 | 11.6 | 12.7 | 30.7 | 26.3 | 78 | 70 | 70 | 70 |
| Fuels and mining products | 16.2 | 21.2 | 91.2 | 52.4 | 8.3 | 15.2 | 65.1 | 36.4 | 51 | 72 | 71 | 69 |
| Manufactures | 81.7 | 130.3 | 329.2 | 257.6 | 65.5 | 88.3 | 218.6 | 174.3 | 80 | 68 | 66 | 68 |
| Total merchandise | 120.1 | 171.3 | 470.7 | 351.8 | 92.3 | 117.3 | 317.1 | 238.8 | 77 | 68 | 67 | 68 |
| Denmark | | | | | | | | | | | | |
| Agricultural products | 4.8 | 6.2 | 15.3 | 12.6 | 2.7 | 3.9 | 10.2 | 8.6 | 56 | 62 | 67 | 68 |
| Fuels and mining products | 2.9 | 3.3 | 10.3 | 6.5 | 1.4 | 1.5 | 4.3 | 3.0 | 49 | 47 | 42 | 46 |
| Manufactures | 23.1 | 33.8 | 81.5 | 60.9 | 16.8 | 24.9 | 55.8 | 39.9 | 73 | 74 | 68 | 66 |
| Total merchandise | 31.6 | 44.5 | 109.8 | 82.0 | 21.3 | 30.7 | 71.0 | 51.9 | 68 | 69 | 65 | 63 |
| Finland | | | | | | | | | | | | |
| Agricultural products | 1.9 | 2.6 | 7.8 | 5.7 | 0.9 | 1.5 | 3.9 | 3.3 | 48 | 58 | 50 | 58 |
| Fuels and mining products | 4.4 | 5.9 | 23.0 | 12.2 | 1.2 | 1.6 | 4.4 | 2.3 | 28 | 27 | 19 | 19 |
| Manufactures | 20.5 | 24.6 | 58.8 | 38.9 | 14.1 | 14.6 | 32.6 | 21.9 | 69 | 59 | 55 | 56 |
| Total merchandise | 27.0 | 33.9 | 92.2 | 60.8 | 16.3 | 17.6 | 43.2 | 29.5 | 60 | 52 | 47 | 48 |
| France | | | | | | | | | | | | |
| Agricultural products | 28.9 | 29.7 | 64.6 | 57.2 | 17.9 | 19.8 | 43.3 | 39.2 | 62 | 67 | 67 | 69 |
| Fuels and mining products | 31.3 | 39.0 | 138.6 | 83.5 | 10.2 | 12.1 | 44.6 | 29.1 | 33 | 31 | 32 | 35 |
| Manufactures | 172.1 | 234.6 | 490.8 | 399.1 | 118.7 | 148.4 | 297.2 | 228.9 | 69 | 63 | 61 | 57 |
| Total merchandise | 233.2 | 303.8 | 695.0 | 540.5 | 147.0 | 180.8 | 385.8 | 297.8 | 63 | 60 | 56 | 55 |
| Germany | | | | | | | | | | | | |
| Agricultural products | 45.5 | 41.7 | 97.0 | 85.6 | 28.9 | 25.1 | 57.0 | 50.9 | 63 | 60 | 59 | 59 |
| Fuels and mining products | 43.8 | 60.9 | 220.3 | 137.4 | 19.2 | 19.7 | 63.6 | 38.4 | 44 | 32 | 29 | 28 |
| Manufactures | 245.0 | 337.5 | 777.2 | 628.5 | 153.1 | 156.4 | 348.1 | 274.0 | 62 | 46 | 45 | 44 |
| Total merchandise | 342.5 | 500.8 | 1'204.2 | 938.4 | 205.1 | 259.6 | 565.6 | 433.6 | 60 | 52 | 47 | 46 |
| Greece | | | | | | | | | | | | |
| Agricultural products | 3.7 | 3.8 | 10.5 | 9.2 | 2.7 | 2.8 | 7.0 | 6.2 | 72 | 75 | 66 | 68 |
| Fuels and mining products | 2.1 | 4.8 | 21.1 | 11.5 | 0.4 | 0.3 | 1.3 | 0.7 | 18 | 7 | 6 | 6 |
| Manufactures | 13.9 | 20.7 | 57.5 | 46.4 | 10.4 | 13.3 | 35.2 | 27.1 | 75 | 64 | 61 | 58 |
| Total merchandise | 19.8 | 29.5 | 89.3 | 67.2 | 13.4 | 16.6 | 43.6 | 34.1 | 68 | 56 | 49 | 51 |
| Ireland | | | | | | | | | | | | |
| Agricultural products | 2.6 | 3.7 | 9.1 | 7.9 | 1.9 | 2.8 | 7.6 | 6.3 | 74 | 77 | 83 | 80 |
| Fuels and mining products | 1.8 | 2.7 | 11.1 | 7.0 | 1.4 | 1.7 | 8.6 | 5.0 | 75 | 64 | 77 | 72 |
| Manufactures | 15.7 | 41.4 | 59.1 | 42.8 | 10.7 | 22.1 | 33.2 | 21.7 | 68 | 53 | 56 | 51 |
| Total merchandise | 20.7 | 50.6 | 85.0 | 62.6 | 14.4 | 27.7 | 52.2 | 35.3 | 69 | 55 | 61 | 56 |

Appendix Table 4.B: Merchandise imports of European Union (15) countries, 1990-2009
(Billion dollars and percentage) (continued)

| | World (billion dollars) | | | | European Union (15) (billion dollars) | | | | Intra-PTA share in total trade | | | |
|---------------------------|----------------------------|---------|---------|---------|--|---------|---------|---------|-----------------------------------|------|------|------|
| | 1990 | 2000 | 2008 | 2009 | 1990 | 2000 | 2008 | 2009 | 1990 | 2000 | 2008 | 2009 |
| Italy | | | | | | | | | | | | |
| Agricultural products | 31.3 | 29.8 | 59.1 | 50.0 | 21.0 | 19.4 | 36.6 | 31.2 | 67 | 65 | 62 | 62 |
| Fuels and mining products | 27.3 | 33.5 | 106.6 | 86.8 | 6.3 | 7.0 | 15.2 | 13.1 | 23 | 21 | 14 | 15 |
| Manufactures | 113.1 | 161.9 | 347.6 | 263.6 | 82.6 | 107.0 | 203.2 | 153.3 | 73 | 66 | 58 | 58 |
| Total merchandise | 180.1 | 238.1 | 561.0 | 412.3 | 111.4 | 133.6 | 263.0 | 204.3 | 62 | 56 | 47 | 50 |
| Luxembourg | | | | | | | | | | | | |
| Agricultural products | - | 1.2 | 2.6 | 2.5 | - | 1.1 | 2.6 | 2.4 | - | 93 | 96 | 95 |
| Fuels and mining products | - | 1.3 | 5.0 | 3.3 | - | 1.2 | 4.9 | 2.5 | - | 98 | 98 | 75 |
| Manufactures | - | 7.6 | 16.2 | 12.5 | - | 6.2 | 14.2 | 11.3 | - | 81 | 87 | 90 |
| Total merchandise | - | 10.6 | 25.4 | 18.6 | - | 8.8 | 22.0 | 16.5 | - | 83 | 87 | 88 |
| Netherlands | | | | | | | | | | | | |
| Agricultural products | 19.0 | 20.6 | 55.8 | 47.3 | 11.9 | 11.3 | 29.7 | 24.9 | 63 | 55 | 53 | 53 |
| Fuels and mining products | 17.1 | 25.1 | 90.9 | 58.9 | 5.7 | 8.0 | 32.5 | 21.6 | 33 | 32 | 36 | 37 |
| Manufactures | 89.0 | 128.8 | 282.8 | 220.3 | 66.8 | 66.0 | 143.8 | 108.2 | 75 | 51 | 51 | 49 |
| Total merchandise | 126.0 | 198.9 | 494.9 | 382.2 | 84.7 | 109.3 | 253.3 | 193.8 | 67 | 55 | 51 | 51 |
| Portugal | | | | | | | | | | | | |
| Agricultural products | 3.9 | 5.5 | 12.0 | 9.9 | 1.8 | 3.6 | 8.4 | 7.4 | 46 | 66 | 70 | 75 |
| Fuels and mining products | 3.3 | 5.1 | 17.9 | 10.6 | 0.9 | 2.0 | 5.8 | 3.4 | 28 | 40 | 32 | 32 |
| Manufactures | 18.1 | 29.1 | 55.2 | 43.2 | 15.5 | 24.1 | 45.9 | 36.3 | 86 | 83 | 83 | 84 |
| Total merchandise | 25.4 | 39.9 | 90.1 | 70.0 | 18.3 | 30.0 | 60.7 | 51.5 | 72 | 75 | 67 | 74 |
| Spain | | | | | | | | | | | | |
| Agricultural products | 12.3 | 17.0 | 43.9 | 35.7 | 6.1 | 9.2 | 23.6 | 20.4 | 50 | 54 | 54 | 57 |
| Fuels and mining products | 13.5 | 23.4 | 97.6 | 56.1 | 3.0 | 4.9 | 18.0 | 9.7 | 23 | 21 | 18 | 17 |
| Manufactures | 61.6 | 111.4 | 275.2 | 194.4 | 45.8 | 81.7 | 175.4 | 123.1 | 74 | 73 | 64 | 63 |
| Total merchandise | 87.7 | 152.9 | 418.7 | 287.5 | 55.2 | 96.5 | 218.2 | 153.9 | 63 | 63 | 52 | 54 |
| Sweden | | | | | | | | | | | | |
| Agricultural products | 4.4 | 5.7 | 15.7 | 13.5 | 2.4 | 3.6 | 9.7 | 8.2 | 54 | 62 | 62 | 61 |
| Fuels and mining products | 6.8 | 8.8 | 30.3 | 17.6 | 2.9 | 4.1 | 13.3 | 7.2 | 42 | 47 | 44 | 41 |
| Manufactures | 42.8 | 54.0 | 117.0 | 83.5 | 29.1 | 36.0 | 76.8 | 53.0 | 68 | 67 | 66 | 63 |
| Total merchandise | 54.5 | 72.8 | 169.0 | 119.9 | 34.6 | 47.8 | 104.9 | 73.1 | 64 | 66 | 62 | 61 |
| United Kingdom | | | | | | | | | | | | |
| Agricultural products | 29.6 | 32.0 | 67.3 | 57.5 | 18.4 | 19.7 | 43.3 | 37.2 | 62 | 61 | 64 | 65 |
| Fuels and mining products | 22.6 | 23.9 | 104.2 | 64.1 | 6.9 | 6.3 | 26.2 | 14.8 | 31 | 26 | 25 | 23 |
| Manufactures | 169.5 | 264.3 | 432.6 | 334.3 | 100.8 | 140.7 | 232.4 | 176.5 | 59 | 53 | 54 | 53 |
| Total merchandise | 224.8 | 339.4 | 634.4 | 482.9 | 126.5 | 171.8 | 308.9 | 233.8 | 56 | 51 | 49 | 48 |
| TOTAL EU (15) | | | | | | | | | | | | |
| Agricultural products | 206.8 | 223.0 | 520.2 | 445.8 | 130.4 | 140.3 | 324.2 | 281.9 | 63 | 63 | 62 | 63 |
| Fuels and mining products | 198.2 | 264.2 | 997.7 | 627.0 | 69.6 | 88.4 | 319.2 | 195.3 | 35 | 33 | 32 | 31 |
| Manufactures | 1'106.7 | 1'635.5 | 3'507.7 | 2'726.4 | 761.4 | 967.9 | 1'995.8 | 1'514.7 | 69 | 59 | 57 | 56 |
| Total merchandise | 1'543.2 | 2'255.4 | 5'314.8 | 4'013.2 | 976.3 | 1'293.1 | 2'817.0 | 2'132.0 | 63 | 57 | 53 | 53 |

^aBelgium refers to Belgium-Luxembourg in 1990.

Source: UN Comtrade database and Secretariat estimates.

Appendix Table 5.A: **Merchandise exports of MERCOSUR countries, 1990-2009**
(Billion dollars and percentage)

| World (billion dollars) | | | | MERCOSUR (billion dollars) | | | | Intra-PTA share in total trade | | | | |
|--|------|-------|-------|-------------------------------|------|------|------|-----------------------------------|------|------|------|------|
| | 1990 | 2000 | 2008 | 2009 | 1990 | 2000 | 2008 | 2009 | 1990 | 2000 | 2008 | 2009 |
| Argentina | | | | | | | | | | | | |
| Agricultural products | 11.3 | 12.0 | 37.5 | 28.2 | 2.8 | 2.5 | 4.4 | 3.4 | 25 | 21 | 12 | 12 |
| Fuels and mining products | 2.5 | 5.4 | 8.8 | 7.8 | 1.0 | 1.9 | 2.4 | 2.1 | 40 | 36 | 28 | 27 |
| Manufactures | 7.1 | 8.5 | 21.6 | 17.8 | 3.4 | 4.2 | 10.7 | 9.4 | 47 | 49 | 50 | 53 |
| Total merchandise | 21.0 | 26.3 | 70.0 | 55.7 | 7.2 | 8.6 | 17.6 | 14.9 | 34 | 33 | 25 | 27 |
| Brazil | | | | | | | | | | | | |
| Agricultural products | 15.7 | 15.5 | 61.4 | 57.7 | 0.9 | 0.9 | 3.4 | 2.5 | 6 | 6 | 6 | 4 |
| Fuels and mining products | 5.2 | 6.5 | 44.0 | 32.7 | 0.4 | 0.5 | 2.6 | 2.4 | 7 | 7 | 6 | 7 |
| Manufactures | 24.6 | 31.7 | 86.4 | 58.1 | 5.3 | 7.1 | 20.9 | 14.6 | 22 | 22 | 24 | 25 |
| Total merchandise | 46.5 | 55.1 | 197.9 | 153.0 | 6.6 | 8.5 | 26.9 | 19.4 | 14 | 15 | 14 | 13 |
| Paraguay | | | | | | | | | | | | |
| Agricultural products | 0.7 | 0.7 | 4.0 | 2.8 | 0.5 | 0.5 | 2.1 | 1.4 | 63 | 67 | 53 | 51 |
| Fuels and mining products | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 96 | 66 | 76 | 65 |
| Manufactures | 0.2 | 0.2 | 0.4 | 0.3 | 0.1 | 0.1 | 0.3 | 0.2 | 48 | 54 | 62 | 65 |
| Total merchandise | 0.9 | 0.9 | 4.5 | 3.2 | 0.5 | 0.6 | 2.4 | 1.7 | 60 | 65 | 54 | 52 |
| Uruguay | | | | | | | | | | | | |
| Agricultural products | 1.2 | 1.3 | 4.1 | 4.0 | 0.5 | 0.4 | 0.8 | 0.9 | 40 | 34 | 20 | 22 |
| Fuels and mining products | 0.0 | 0.0 | 0.2 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 87 | 92 | 43 | 40 |
| Manufactures | 0.8 | 1.0 | 1.5 | 1.3 | 0.5 | 0.6 | 0.9 | 0.8 | 58 | 59 | 61 | 64 |
| Total merchandise | 2.1 | 2.3 | 5.9 | 5.4 | 1.0 | 1.0 | 1.8 | 1.7 | 48 | 45 | 31 | 32 |
| TOTAL MERCOSUR | | | | | | | | | | | | |
| Agricultural products | 29.0 | 29.4 | 107.0 | 92.6 | 4.7 | 4.3 | 10.7 | 8.1 | 16 | 15 | 10 | 9 |
| Fuels and mining products | 7.7 | 12.0 | 53.1 | 40.6 | 1.4 | 2.4 | 5.1 | 4.5 | 18 | 20 | 10 | 11 |
| Manufactures | 32.7 | 41.3 | 109.9 | 77.5 | 9.2 | 12.0 | 32.9 | 25.0 | 28 | 29 | 30 | 32 |
| Total merchandise | 70.5 | 84.6 | 278.4 | 217.2 | 15.3 | 18.7 | 48.7 | 37.7 | 22 | 22 | 17 | 17 |
| Memo: Bolivarian Republic of Venezuela | | | | | | | | | | | | |
| Agricultural products | 0.6 | 0.5 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 3 | 3 | 1 | 0 |
| Fuels and mining products | 15.8 | 27.7 | 79.8 | 54.9 | 1.6 | 1.2 | 1.7 | 0.0 | 10 | 4 | 2 | 0 |
| Manufactures | 2.6 | 2.7 | 3.4 | 1.6 | 0.1 | 0.1 | 0.1 | 0.1 | 3 | 4 | 2 | 6 |
| Total merchandise | 19.1 | 30.9 | 83.5 | 56.6 | 1.7 | 1.3 | 1.8 | 0.1 | 9 | 4 | 2 | 0 |
| Memo: MERCOSUR including Bolivarian Republic of Venezuela | | | | | | | | | | | | |
| Agricultural products | 29.6 | 29.9 | 107.2 | 92.7 | 4.7 | 4.3 | 10.7 | 8.1 | 16 | 14 | 10 | 9 |
| Fuels and mining products | 23.6 | 39.6 | 132.8 | 95.5 | 3.1 | 3.6 | 6.9 | 4.5 | 13 | 9 | 5 | 5 |
| Manufactures | 35.3 | 44.0 | 113.4 | 79.1 | 9.3 | 12.1 | 32.9 | 25.1 | 26 | 27 | 29 | 32 |
| Total merchandise | 89.6 | 115.6 | 361.8 | 273.8 | 17.1 | 20.0 | 50.5 | 37.8 | 19 | 17 | 14 | 14 |

Source: UN Comtrade database and Secretariat estimates.

Appendix Table 5.B: Merchandise imports of MERCOSUR countries, 1990-2009
(Billion dollars and percentage)

| | World (billion dollars) | | | | MERCOSUR (billion dollars) | | | | Intra-PTA share in total trade | | | |
|--|----------------------------|-------|-------|-------|-------------------------------|------|------|------|-----------------------------------|------|------|------|
| | 1990 | 2000 | 2008 | 2009 | 1990 | 2000 | 2008 | 2009 | 1990 | 2000 | 2008 | 2009 |
| Argentina | | | | | | | | | | | | |
| Agricultural products | 1.5 | 1.6 | 3.2 | 2.0 | 0.5 | 0.7 | 2.1 | 0.9 | 35 | 40 | 66 | 48 |
| Fuels and mining products | 1.4 | 1.6 | 6.3 | 3.4 | 0.4 | 0.7 | 2.0 | 1.1 | 31 | 44 | 32 | 33 |
| Manufactures | 17.2 | 21.9 | 47.6 | 34.6 | 3.7 | 5.9 | 16.2 | 10.8 | 21 | 27 | 34 | 31 |
| Total merchandise | 20.1 | 25.3 | 57.5 | 40.3 | 4.6 | 7.2 | 20.4 | 12.9 | 23 | 29 | 35 | 32 |
| Brazil | | | | | | | | | | | | |
| Agricultural products | 7.2 | 4.8 | 9.7 | 8.2 | 3.4 | 2.7 | 4.3 | 3.9 | 47 | 57 | 45 | 48 |
| Fuels and mining products | 8.3 | 10.0 | 41.8 | 22.5 | 1.6 | 2.8 | 2.5 | 1.9 | 20 | 28 | 6 | 9 |
| Manufactures | 38.2 | 41.0 | 121.7 | 96.9 | 3.1 | 3.7 | 8.8 | 8.1 | 8 | 9 | 7 | 8 |
| Total merchandise | 53.7 | 55.9 | 173.2 | 127.6 | 8.2 | 9.2 | 15.7 | 13.9 | 15 | 17 | 9 | 11 |
| Paraguay | | | | | | | | | | | | |
| Agricultural products | 0.6 | 0.4 | 0.6 | 0.6 | 0.3 | 0.3 | 0.5 | 0.5 | 58 | 75 | 79 | 78 |
| Fuels and mining products | 0.2 | 0.4 | 1.5 | 1.1 | 0.2 | 0.3 | 1.1 | 0.9 | 86 | 79 | 74 | 88 |
| Manufactures | 2.3 | 1.5 | 6.9 | 5.3 | 0.7 | 0.6 | 2.6 | 1.8 | 30 | 40 | 38 | 34 |
| Total merchandise | 3.1 | 2.3 | 9.0 | 6.9 | 1.2 | 1.2 | 4.2 | 3.2 | 39 | 53 | 47 | 46 |
| Uruguay | | | | | | | | | | | | |
| Agricultural products | 0.4 | 0.5 | 0.9 | 0.8 | 0.3 | 0.3 | 0.6 | 0.6 | 64 | 67 | 68 | 70 |
| Fuels and mining products | 0.3 | 0.6 | 2.9 | 1.7 | 0.2 | 0.3 | 1.8 | 1.3 | 56 | 54 | 63 | 75 |
| Manufactures | 2.1 | 2.4 | 5.3 | 4.3 | 0.9 | 1.0 | 2.2 | 1.8 | 42 | 43 | 41 | 41 |
| Total merchandise | 2.9 | 3.5 | 9.1 | 6.9 | 1.3 | 1.7 | 4.6 | 3.7 | 47 | 48 | 50 | 53 |
| TOTAL MERCOSUR | | | | | | | | | | | | |
| Agricultural products | 9.7 | 7.3 | 14.5 | 11.6 | 4.5 | 4.0 | 7.6 | 5.9 | 46 | 55 | 53 | 51 |
| Fuels and mining products | 10.3 | 12.5 | 52.4 | 28.7 | 2.5 | 4.1 | 7.5 | 5.3 | 24 | 33 | 14 | 18 |
| Manufactures | 59.8 | 66.8 | 181.6 | 141.0 | 8.4 | 11.3 | 29.8 | 22.4 | 14 | 17 | 16 | 16 |
| Total merchandise | 79.9 | 86.9 | 248.8 | 181.8 | 15.4 | 19.3 | 44.9 | 33.6 | 19 | 22 | 18 | 18 |
| Memo: Bolivarian Republic of Venezuela | | | | | | | | | | | | |
| Agricultural products | 2.0 | 2.0 | 8.3 | 6.6 | 0.4 | 0.2 | 2.1 | 1.8 | 18 | 13 | 25 | 27 |
| Fuels and mining products | 0.5 | 0.8 | 1.3 | 2.0 | 0.0 | 0.0 | 0.1 | 0.1 | 3 | 2 | 8 | 3 |
| Manufactures | 8.2 | 11.8 | 37.5 | 29.6 | 0.4 | 0.8 | 3.6 | 2.7 | 5 | 6 | 10 | 9 |
| Total merchandise | 10.8 | 14.6 | 47.5 | 38.7 | 0.8 | 1.0 | 5.8 | 4.6 | 7 | 7 | 12 | 12 |
| Memo: MERCOSUR including Bolivarian Republic of Venezuela | | | | | | | | | | | | |
| Agricultural products | 11.8 | 9.3 | 22.8 | 18.3 | 4.9 | 4.2 | 9.7 | 7.7 | 42 | 46 | 42 | 42 |
| Fuels and mining products | 10.8 | 13.3 | 53.7 | 30.7 | 2.5 | 4.1 | 7.6 | 5.3 | 23 | 31 | 14 | 17 |
| Manufactures | 68.1 | 78.6 | 219.1 | 170.7 | 8.8 | 12.0 | 33.4 | 25.2 | 13 | 15 | 15 | 15 |
| Total merchandise | 90.6 | 101.4 | 296.2 | 220.5 | 16.2 | 20.4 | 50.7 | 38.3 | 18 | 20 | 17 | 17 |

Source: UN Comtrade database and Secretariat estimates.

Appendix Table 6.A: **Merchandise exports of NAFTA countries, 1990-2009**
(Billion dollars and percentage)

| | World (billion dollars) | | | | NAFTA (billion dollars) | | | | Intra-PTA share in total trade | | | |
|---------------------------|----------------------------|---------|---------|---------|----------------------------|-------|---------|-------|-----------------------------------|------|------|------|
| | 1990 | 2000 | 2008 | 2009 | 1990 | 2000 | 2008 | 2009 | 1990 | 2000 | 2008 | 2009 |
| Canada | | | | | | | | | | | | |
| Agricultural products | 22.3 | 34.8 | 54.1 | 43.7 | 11.0 | 22.4 | 30.3 | 23.4 | 49 | 64 | 56 | 54 |
| Fuels and mining products | 23.4 | 48.3 | 161.5 | 93.0 | 16.3 | 43.6 | 136.9 | 77.7 | 69 | 90 | 85 | 84 |
| Manufactures | 73.3 | 175.6 | 214.4 | 157.2 | 63.1 | 159.5 | 173.3 | 124.8 | 86 | 91 | 81 | 79 |
| Total merchandise | 126.9 | 277.1 | 455.7 | 315.4 | 95.7 | 243.0 | 359.3 | 240.7 | 75 | 88 | 79 | 76 |
| Mexico | | | | | | | | | | | | |
| Agricultural products | 3.5 | 9.0 | 17.1 | 16.6 | 3.1 | 7.3 | 13.2 | 13.2 | 88 | 81 | 77 | 79 |
| Fuels and mining products | 11.4 | 18.3 | 57.8 | 36.2 | 6.8 | 14.3 | 46.5 | 29.6 | 60 | 78 | 80 | 82 |
| Manufactures | 11.4 | 138.8 | 212.3 | 171.6 | 8.9 | 128.5 | 178.3 | 146.5 | 78 | 93 | 84 | 85 |
| Total merchandise | 26.3 | 166.3 | 291.3 | 229.7 | 18.7 | 150.2 | 240.9 | 193.7 | 71 | 90 | 83 | 84 |
| United States | | | | | | | | | | | | |
| Agricultural products | 59.4 | 71.4 | 140.2 | 119.7 | 9.7 | 19.1 | 39.5 | 34.7 | 16 | 27 | 28 | 29 |
| Fuels and mining products | 24.0 | 27.8 | 126.0 | 88.1 | 6.3 | 13.2 | 41.7 | 25.7 | 26 | 48 | 33 | 29 |
| Manufactures | 290.5 | 646.4 | 973.4 | 724.9 | 89.9 | 245.7 | 315.9 | 254.5 | 31 | 38 | 32 | 35 |
| Total merchandise | 392.9 | 780.3 | 1,299.9 | 1,056.7 | 111.3 | 288.1 | 412.4 | 333.7 | 28 | 37 | 32 | 32 |
| TOTAL NAFTA | | | | | | | | | | | | |
| Agricultural products | 85.2 | 115.2 | 211.4 | 180.0 | 23.7 | 48.8 | 82.9 | 71.3 | 28 | 42 | 39 | 40 |
| Fuels and mining products | 58.8 | 94.4 | 345.3 | 217.4 | 29.4 | 71.1 | 225.0 | 133.1 | 50 | 75 | 65 | 61 |
| Manufactures | 375.2 | 960.9 | 1,400.0 | 1,053.7 | 161.8 | 533.7 | 667.5 | 525.7 | 43 | 56 | 48 | 50 |
| Total merchandise | 546.1 | 1,223.7 | 2,046.9 | 1,601.8 | 225.8 | 681.3 | 1,012.6 | 768.1 | 41 | 56 | 49 | 48 |

Source: UN Comtrade database and Secretariat estimates.

Appendix Table 6.B: Merchandise imports of NAFTA countries, 1990-2009
(Billion dollars and percentage)

| | World (billion dollars) | | | | NAFTA (billion dollars) | | | | Intra-PTA share in total trade | | | |
|---------------------------|----------------------------|---------|---------|---------|----------------------------|-------|-------|-------|-----------------------------------|------|------|------|
| | 1990 | 2000 | 2008 | 2009 | 1990 | 2000 | 2008 | 2009 | 1990 | 2000 | 2008 | 2009 |
| Canada | | | | | | | | | | | | |
| Agricultural products | 9.0 | 15.3 | 30.3 | 28.4 | 5.6 | 10.2 | 19.1 | 18.2 | 62 | 67 | 63 | 64 |
| Fuels and mining products | 10.9 | 18.6 | 63.4 | 38.3 | 4.6 | 7.0 | 25.1 | 14.5 | 42 | 37 | 40 | 38 |
| Manufactures | 92.9 | 200.7 | 301.4 | 242.4 | 64.1 | 142.3 | 181.9 | 142.4 | 69 | 71 | 60 | 59 |
| Total merchandise | 116.5 | 240.1 | 408.7 | 321.1 | 76.7 | 162.6 | 234.4 | 181.7 | 66 | 68 | 57 | 57 |
| Mexico | | | | | | | | | | | | |
| Agricultural products | 5.4 | 11.0 | 25.9 | 20.2 | 3.7 | 9.0 | 20.9 | 16.2 | 68 | 82 | 81 | 80 |
| Fuels and mining products | 2.0 | 8.8 | 38.3 | 21.1 | 1.7 | 6.5 | 23.5 | 14.4 | 83 | 74 | 61 | 68 |
| Manufactures | 18.9 | 149.7 | 239.3 | 188.4 | 12.7 | 114.1 | 115.7 | 88.1 | 67 | 76 | 48 | 47 |
| Total merchandise | 29.6 | 179.4 | 308.6 | 234.4 | 20.2 | 131.7 | 161.2 | 120.1 | 68 | 73 | 52 | 51 |
| United States | | | | | | | | | | | | |
| Agricultural products | 40.0 | 69.1 | 115.9 | 100.7 | 14.2 | 28.2 | 41.1 | 35.1 | 36 | 41 | 35 | 35 |
| Fuels and mining products | 84.5 | 167.6 | 558.3 | 311.4 | 22.5 | 54.9 | 179.1 | 104.7 | 27 | 33 | 32 | 34 |
| Manufactures | 375.7 | 968.2 | 1,416.7 | 1,121.5 | 81.2 | 263.8 | 309.5 | 241.8 | 22 | 27 | 22 | 22 |
| Total merchandise | 517.5 | 1,258.1 | 2,164.8 | 1,601.9 | 124.5 | 370.1 | 557.1 | 405.9 | 24 | 29 | 26 | 25 |
| TOTAL NAFTA | | | | | | | | | | | | |
| Agricultural products | 54.3 | 95.4 | 172.1 | 149.4 | 23.5 | 47.4 | 81.1 | 69.4 | 43 | 50 | 47 | 46 |
| Fuels and mining products | 97.4 | 194.9 | 660.0 | 370.8 | 28.8 | 68.4 | 227.7 | 133.6 | 30 | 35 | 34 | 36 |
| Manufactures | 487.5 | 1,318.6 | 1,957.4 | 1,552.3 | 158.0 | 520.3 | 607.0 | 472.3 | 32 | 39 | 31 | 30 |
| Total merchandise | 663.6 | 1,677.6 | 2,882.2 | 2,157.4 | 221.4 | 664.5 | 952.8 | 707.7 | 33 | 40 | 33 | 33 |

Source: UN Comtrade database and Secretariat estimates.

Appendix Table 7: **World merchandise exports by product and region, 1990-2009**
(Billion dollars and percentage)

| Destination | World | | | | | Intra-regional | | | | | | | | | |
|---|---------|---------|---------|----------|----------|----------------|---------|---------|---------|---------|---------------------------|------|------|------|------|
| | Value | | | | | Value | | | | | Share in exports to world | | | | |
| | Origin | 1990 | 1995 | 2000 | 2008 | 2009 | 1990 | 1995 | 2000 | 2008 | 2009 | 1990 | 1995 | 2000 | 2008 |
| World | | | | | | | | | | | | | | | |
| Agricultural products | 414.7 | 589.4 | 551.3 | 1,340.1 | 1,168.8 | 225.8 | 334.8 | 323.6 | 774.1 | 679.7 | 55 | 57 | 59 | 58 | 58 |
| Fuels and mining products | 488.3 | 545.3 | 854.0 | 3,521.7 | 2,262.9 | 193.3 | 257.9 | 368.9 | 1,432.9 | 939.9 | 40 | 47 | 43 | 41 | 42 |
| Manufactures | 2,391.2 | 3,718.8 | 4,702.3 | 10,468.2 | 8,354.7 | 1,340.7 | 2,170.5 | 2,765.0 | 5,999.4 | 4,816.6 | 56 | 58 | 59 | 57 | 58 |
| ▪ Iron and steel | 105.8 | 154.9 | 143.4 | 590.0 | 326.3 | 69.8 | 106.0 | 95.3 | 357.1 | 200.2 | 66 | 68 | 67 | 61 | 61 |
| ▪ Chemicals | 296.1 | 485.5 | 585.2 | 1,676.1 | 1,447.1 | 179.5 | 303.3 | 359.4 | 1,025.6 | 882.3 | 61 | 63 | 61 | 61 | 61 |
| ▪ Office and telecom equipment | 298.6 | 604.7 | 968.7 | 1,572.0 | 1,322.8 | 131.6 | 301.1 | 532.1 | 891.3 | 767.7 | 44 | 50 | 55 | 57 | 58 |
| Electronic data processing and office equipment | ... | ... | 372.1 | 550.9 | 462.8 | ... | ... | 194.4 | 286.1 | 238.9 | ... | ... | 52 | 52 | 52 |
| Telecom. equipment | ... | ... | 288.2 | 602.4 | 506.4 | ... | ... | 163.1 | 326.6 | 282.7 | ... | ... | 57 | 54 | 56 |
| Integrated circuits and electronic components | ... | ... | 308.4 | 418.8 | 353.6 | ... | ... | 174.7 | 278.7 | 246.1 | ... | ... | 57 | 67 | 70 |
| ▪ Automotive products | 319.0 | 459.2 | 577.8 | 1,245.8 | 846.7 | 207.5 | 309.3 | 402.5 | 780.7 | 562.6 | 65 | 67 | 70 | 63 | 67 |
| ▪ Electrical, non-electrical and power-generating machinery | ... | ... | 837.4 | 1,956.7 | 1,506.7 | ... | ... | 484.3 | 1,081.5 | 816.9 | ... | ... | 58 | 55 | 54 |
| ▪ Textiles | 104.4 | 152.3 | 157.4 | 253.4 | 211.1 | 70.0 | 104.7 | 103.7 | 145.0 | 121.0 | 67 | 69 | 66 | 58 | 58 |
| ▪ Clothing | 108.1 | 158.4 | 197.6 | 364.9 | 315.6 | 50.8 | 77.9 | 95.0 | 163.8 | 143.2 | 47 | 50 | 48 | 45 | 45 |
| ▪ Scientific and controlling instruments | ... | ... | 118.1 | 309.6 | 270.9 | ... | ... | 57.0 | 162.2 | 141.2 | ... | ... | 48 | 52 | 52 |
| Total merchandise | 3,395.4 | 5,017.7 | 6,277.2 | 15,763.3 | 12,177.6 | 1,792.8 | 2,855.2 | 3,542.4 | 8,389.5 | 6,593.1 | 53 | 57 | 56 | 53 | 54 |
| North America | | | | | | | | | | | | | | | |
| Agricultural products | 85.2 | 119.7 | 115.3 | 211.2 | 178.8 | 23.8 | 36.8 | 49.1 | 83.1 | 70.5 | 28 | 31 | 43 | 39 | 39 |
| Fuels and mining products | 58.8 | 65.6 | 94.3 | 345.5 | 217.5 | 29.4 | 39.1 | 71.2 | 225.3 | 133.3 | 50 | 60 | 75 | 65 | 61 |
| Manufactures | 375.2 | 631.5 | 963.2 | 1,389.3 | 1,129.8 | 162.0 | 303.2 | 535.0 | 669.8 | 534.9 | 43 | 48 | 56 | 48 | 47 |
| ▪ Iron and steel | 6.3 | 11.4 | 11.3 | 35.5 | 21.0 | 4.1 | 7.0 | 8.9 | 23.8 | 13.6 | 66 | 62 | 79 | 67 | 65 |
| ▪ Chemicals | 47.9 | 76.8 | 102.7 | 228.9 | 197.8 | 13.9 | 25.5 | 40.1 | 80.0 | 67.3 | 29 | 33 | 39 | 35 | 34 |
| ▪ Office and telecom equipment | 57.9 | 121.2 | 208.1 | 208.0 | 173.7 | 16.0 | 41.9 | 92.2 | 96.4 | 87.1 | 28 | 35 | 44 | 46 | 50 |
| Electronic data processing and office equipment | ... | ... | 74.9 | 61.6 | 53.3 | ... | ... | 29.3 | 28.0 | 26.2 | ... | ... | 38 | 46 | 49 |
| Telecom. equipment | ... | ... | 63.9 | 91.1 | 78.7 | ... | ... | 41.0 | 57.3 | 50.7 | ... | ... | 64 | 63 | 64 |
| Integrated circuits and electronic components | ... | ... | 69.3 | 55.4 | 41.7 | ... | ... | 21.9 | 11.1 | 10.2 | ... | ... | 32 | 20 | 24 |
| ▪ Automotive products | 65.4 | 110.7 | 158.5 | 209.3 | 143.1 | 55.0 | 89.5 | 140.4 | 151.3 | 108.1 | 84 | 81 | 89 | 72 | 76 |
| ▪ Electrical, non-electrical and power generating machinery | ... | ... | 190.6 | 273.9 | 220.8 | ... | ... | 99.4 | 129.7 | 103.5 | ... | ... | 52 | 47 | 47 |
| ▪ Textiles | 6.1 | 10.0 | 15.7 | 16.5 | 13.2 | 2.4 | 5.0 | 10.8 | 9.2 | 7.6 | 39 | 50 | 69 | 56 | 57 |

Appendix Table 7: World merchandise exports by product and region, 1990-2009
(Billion dollars and percentage) (continued)

| Destination | World | | | | | Intra-regional | | | | | | | | | |
|---|--------------|-------------|-------------|-------------|-------------|-----------------------|-------------|-------------|-------------|-------------|----------------------------------|-------------|-------------|-------------|-------------|
| | Value | | | | | Value | | | | | Share in exports to world | | | | |
| Origin | 1990 | 1995 | 2000 | 2008 | 2009 | 1990 | 1995 | 2000 | 2008 | 2009 | 1990 | 1995 | 2000 | 2008 | 2009 |
| ▪ Clothing | 3.0 | 10.4 | 19.3 | 10.6 | 9.4 | 1.0 | 5.6 | 13.5 | 8.1 | 7.0 | 33 | 53 | 70 | 76 | 75 |
| ▪ Scientific and controlling instruments | ... | ... | 38.7 | 62.2 | 56.4 | ... | ... | 12.8 | 20.5 | 18.7 | ... | ... | 33 | 33 | 33 |
| Total merchandise | 547.7 | 856.5 | 1,225.0 | 2,035.2 | 1,602.4 | 226.1 | 394.8 | 682.8 | 1,013.4 | 768.7 | 41 | 46 | 56 | 50 | 48 |
| South and Central America | | | | | | | | | | | | | | | |
| Agricultural products | 36.2 | 51.4 | 52.8 | 156.3 | 139.7 | 3.9 | 9.5 | 9.8 | 27.3 | 22.6 | 11 | 18 | 19 | 18 | 16 |
| Fuels and mining products | 37.5 | 42.1 | 67.7 | 258.3 | 178.3 | 5.4 | 10.5 | 15.9 | 60.2 | 41.2 | 14 | 15 | 24 | 23 | 23 |
| Manufactures | 44.3 | 50.9 | 73.0 | 172.9 | 125.6 | 7.5 | 20.2 | 24.7 | 73.4 | 55.6 | 17 | 40 | 34 | 42 | 44 |
| ▪ Iron and steel | 5.5 | 6.3 | 6.5 | 22.0 | 12.4 | 0.8 | 1.5 | 1.5 | 6.1 | 3.8 | 15 | 23 | 23 | 28 | 31 |
| ▪ Chemicals | 5.1 | 9.2 | 11.5 | 37.1 | 28.7 | 1.9 | 4.5 | 6.1 | 16.9 | 13.8 | 37 | 49 | 53 | 46 | 48 |
| ▪ Office and telecom equipment | 4.7 | 1.0 | 4.3 | 6.0 | 4.9 | 0.1 | 0.3 | 1.2 | 2.7 | 1.9 | 2 | 29 | 28 | 45 | 38 |
| Electronic data processing and office equipment | ... | ... | 2.3 | 1.6 | 1.5 | ... | ... | 0.3 | 0.3 | 0.3 | ... | ... | 14 | 20 | 21 |
| Telecom. equipment | ... | ... | 1.7 | 3.1 | 2.3 | ... | ... | 0.8 | 2.3 | 1.5 | ... | ... | 48 | 73 | 65 |
| Integrated circuits and electronic components | ... | ... | 0.3 | 1.2 | 1.1 | ... | ... | 0.0 | 0.0 | 0.1 | ... | ... | 11 | 4 | 6 |
| ▪ Automotive products | 2.9 | 5.2 | 7.7 | 23.1 | 15.1 | 0.7 | 3.8 | 4.4 | 15.1 | 11.1 | 25 | 73 | 57 | 66 | 73 |
| ▪ Electrical, non-electrical and power generating machinery | ... | ... | 6.7 | 20.8 | 15.3 | ... | ... | 2.6 | 9.5 | 7.0 | ... | ... | 39 | 45 | 46 |
| ▪ Textiles | 1.9 | 2.2 | 2.1 | 4.0 | 3.2 | 0.4 | 1.2 | 1.3 | 2.9 | 2.4 | 20 | 55 | 61 | 72 | 75 |
| ▪ Clothing | 3.4 | 5.6 | 11.7 | 12.7 | 9.9 | 0.4 | 0.6 | 0.6 | 2.1 | 1.2 | 12 | 10 | 5 | 17 | 13 |
| ▪ Scientific and controlling instruments | ... | ... | 1.1 | 2.3 | 2.2 | ... | ... | 0.2 | 0.6 | 0.5 | ... | ... | 18 | 25 | 24 |
| Total merchandise | 120.3 | 149.0 | 197.8 | 603.4 | 458.9 | 17.3 | 40.3 | 50.6 | 161.4 | 120.0 | 14 | 27 | 26 | 27 | 26 |
| Europe | | | | | | | | | | | | | | | |
| Agricultural products | 194.3 | 264.9 | 244.4 | 603.2 | 528.3 | 154.1 | 207.3 | 193.1 | 486.0 | 425.7 | 79 | 78 | 79 | 81 | 81 |
| Fuels and mining products | 124.6 | 144.1 | 204.3 | 767.4 | 482.6 | 100.4 | 117.8 | 163.3 | 611.7 | 380.2 | 81 | 82 | 80 | 80 | 79 |
| Manufactures | 1,328.7 | 1,842.0 | 2,125.5 | 4,946.1 | 3,879.2 | 954.9 | 1,307.2 | 1,532.8 | 3,532.4 | 2,748.1 | 72 | 71 | 72 | 71 | 71 |
| ▪ Iron and steel | 68.2 | 85.0 | 71.2 | 265.6 | 146.7 | 51.3 | 65.6 | 57.0 | 203.5 | 106.4 | 75 | 77 | 80 | 77 | 73 |
| ▪ Chemicals | 197.1 | 297.9 | 341.4 | 972.9 | 860.9 | 141.7 | 215.4 | 241.6 | 704.3 | 605.6 | 72 | 72 | 71 | 72 | 70 |
| ▪ Office and telecom equipment | 96.9 | 169.3 | 287.6 | 421.3 | 334.9 | 74.6 | 124.3 | 214.9 | 319.1 | 260.5 | 77 | 73 | 75 | 76 | 78 |
| Electronic data processing and office equipment | ... | ... | 115.2 | 160.3 | 131.2 | ... | ... | 94.2 | 131.6 | 107.4 | ... | ... | 82 | 82 | 82 |
| Telecom. equipment | ... | ... | 112.9 | 191.8 | 154.5 | ... | ... | 82.5 | 144.0 | 121.0 | ... | ... | 73 | 75 | 78 |
| Integrated circuits and electronic components | ... | ... | 59.5 | 69.2 | 49.2 | ... | ... | 38.2 | 43.5 | 32.1 | ... | ... | 64 | 63 | 65 |
| ▪ Automotive products | 176.7 | 243.0 | 290.1 | 682.7 | 470.5 | 138.7 | 189.0 | 232.0 | 523.4 | 369.3 | 79 | 78 | 80 | 77 | 79 |

Appendix Table 7: World merchandise exports by product and region, 1990-2009
(Billion dollars and percentage) (continued)

| Destination | World | | | | | Intra-regional | | | | | | | | | |
|---|---------|---------|---------|---------|---------|----------------|---------|---------|---------|---------|---------------------------|------|------|------|------|
| | Value | | | | | Value | | | | | Share in exports to world | | | | |
| Origin | 1990 | 1995 | 2000 | 2008 | 2009 | 1990 | 1995 | 2000 | 2008 | 2009 | 1990 | 1995 | 2000 | 2008 | 2009 |
| ▪ Electrical, non-electrical and power-generating machinery | ... | ... | 401.6 | 1018.7 | 763.4 | ... | ... | 258.7 | 618.1 | 442.1 | ... | ... | 64 | 61 | 58 |
| ▪ Textiles | 56.7 | 70.3 | 62.3 | 92.9 | 71.8 | 45.6 | 55.0 | 48.2 | 69.8 | 53.8 | 80 | 78 | 77 | 75 | 75 |
| ▪ Clothing | 48.8 | 62.7 | 64.5 | 132.4 | 112.2 | 40.5 | 51.1 | 53.4 | 109.9 | 95.0 | 83 | 82 | 83 | 83 | 85 |
| ▪ Scientific and controlling instruments | ... | ... | 49.9 | 124.0 | 105.7 | ... | ... | 30.5 | 73.5 | 61.7 | ... | ... | 61 | 59 | 58 |
| Total merchandise | 1,685.8 | 2,328.4 | 2,634.0 | 6,469.1 | 5,016.0 | 1,223.4 | 1,692.7 | 1,928.1 | 4,711.3 | 3,619.5 | 73 | 73 | 73 | 73 | 72 |
| Commonwealth of Independent States (CIS)* | | | | | | | | | | | | | | | |
| Agricultural products | 6.0 | 16.5 | 12.9 | 46.6 | 39.2 | - | 5.8 | 3.9 | 15.4 | 13.1 | - | 35 | 30 | 33 | 33 |
| Fuels and mining products | 32.9 | 53.0 | 84.6 | 465.8 | 284.0 | - | 13.9 | 10.1 | 55.7 | 32.1 | - | 26 | 12 | 12 | 11 |
| Manufactures | 17.1 | 45.0 | 43.8 | 172.7 | 108.8 | - | 18.4 | 15.2 | 64.3 | 40.5 | - | 41 | 35 | 37 | 37 |
| ▪ Iron and steel | 2.7 | 13.3 | 14.3 | 66.4 | 36.4 | - | 3.3 | 2.7 | 15.3 | 8.7 | - | 25 | 19 | 23 | 24 |
| ▪ Chemicals | 3.6 | 10.4 | 9.7 | 39.7 | 26.9 | - | 3.2 | 2.3 | 8.3 | 6.4 | - | 31 | 23 | 21 | 24 |
| ▪ Office and telecom equipment | 0.4 | 0.9 | 0.6 | 1.9 | 1.6 | - | 0.6 | 0.3 | 0.5 | 0.4 | - | 61 | 44 | 24 | 27 |
| Electronic data processing and office equipment | ... | ... | 0.1 | 0.3 | 0.3 | - | ... | 0.1 | 0.1 | 0.1 | - | ... | 66 | 36 | 29 |
| Telecom. equipment | ... | ... | 0.3 | 1.3 | 1.0 | - | ... | 0.1 | 0.2 | 0.2 | - | ... | 42 | 19 | 23 |
| Integrated circuits and electronic components | ... | ... | 0.2 | 0.3 | 0.3 | - | ... | 0.0 | 0.1 | 0.1 | - | ... | 31 | 35 | 37 |
| ▪ Automotive products | 1.7 | 2.5 | 2.2 | 8.1 | 3.5 | - | 1.8 | 1.7 | 6.9 | 2.6 | - | 70 | 79 | 85 | 73 |
| ▪ Electrical, non-electrical and power-generating machinery | ... | ... | 5.2 | 19.8 | 14.3 | - | ... | 3.3 | 13.6 | 9.0 | - | ... | 63 | 69 | 63 |
| ▪ Textiles | 0.4 | 1.7 | 1.3 | 2.3 | 1.8 | - | 0.9 | 0.7 | 1.1 | 0.9 | - | 51 | 50 | 49 | 47 |
| ▪ Clothing | 1.3 | 1.3 | 1.3 | 2.0 | 1.5 | - | 0.3 | 0.2 | 0.6 | 0.5 | - | 22 | 15 | 30 | 36 |
| ▪ Scientific and controlling instruments | ... | ... | 0.5 | 1.6 | 1.3 | - | ... | 0.3 | 0.7 | 0.6 | - | ... | 53 | 45 | 42 |
| Total merchandise | 58.1 | 118.4 | 145.7 | 702.8 | 451.6 | - | 38.2 | 29.3 | 136.9 | 86.9 | - | 32 | 20 | 20 | 19 |
| Africa | | | | | | | | | | | | | | | |
| Agricultural products | 16.6 | 22.0 | 18.5 | 42.1 | 39.1 | 2.0 | 2.4 | 3.2 | 8.4 | 8.2 | 12 | 11 | 18 | 20 | 21 |
| Fuels and mining products | 56.2 | 49.8 | 87.4 | 393.7 | 245.7 | 1.8 | 2.9 | 4.5 | 21.8 | 14.5 | 3 | 6 | 5 | 6 | 6 |
| Manufactures | 21.1 | 30.9 | 35.8 | 98.2 | 73.8 | 2.4 | 5.6 | 5.6 | 21.2 | 18.6 | 12 | 18 | 16 | 22 | 25 |
| ▪ Iron and steel | 2.4 | 3.6 | 3.3 | 11.8 | 6.7 | 0.3 | 0.8 | 0.4 | 2.0 | 1.6 | 15 | 21 | 12 | 17 | 24 |
| ▪ Chemicals | 3.4 | 5.0 | 5.1 | 20.9 | 14.2 | 0.5 | 1.2 | 1.5 | 5.4 | 4.5 | 14 | 23 | 29 | 26 | 32 |
| ▪ Office and telecom equipment | 0.3 | 0.7 | 1.0 | 2.7 | 2.4 | 0.0 | 0.1 | 0.2 | 0.5 | 0.5 | 11 | 15 | 20 | 20 | 23 |
| Electronic data processing and office equipment | ... | ... | 0.1 | 0.5 | 0.5 | ... | ... | 0.1 | 0.2 | 0.3 | ... | ... | 51 | 49 | 55 |

*Due to insufficient data in 1990, the 1990 column for CIS refers to 1995.

Appendix Table 7: World merchandise exports by product and region, 1990-2009
(Billion dollars and percentage) (continued)

| Destination | | World | | | | | Intra-regional | | | | | | | | | | |
|---|-------|--------------|-------------|-------------|-------------|-------------|-----------------------|-------------|-------------|-------------|-------------|----------------------------------|-------------|-------------|-------------|-------------|-------------|
| | | Value | | | | | Value | | | | | Share in exports to world | | | | | |
| Origin | | 1990 | 1995 | 2000 | 2008 | 2009 | | 1990 | 1995 | 2000 | 2008 | 2009 | 1990 | 1995 | 2000 | 2008 | 2009 |
| Telecom. equipment | ... | ... | 0.4 | 1.3 | 1.1 | ... | ... | 0.1 | 0.3 | 0.2 | ... | ... | 36 | 23 | 22 | | |
| Integrated circuits and electronic components | ... | ... | 0.5 | 0.9 | 0.8 | ... | ... | 0.0 | 0.0 | 0.0 | ... | ... | 2 | 3 | 4 | | |
| ▪ Automotive products | 0.5 | 0.9 | 1.7 | 7.6 | 5.3 | 0.2 | 0.4 | 0.4 | 1.8 | 1.5 | 33 | 48 | 24 | 24 | 27 | | |
| ▪ Electrical, non-electrical and power-generating machinery | ... | ... | 3.3 | 13.1 | 10.4 | ... | ... | 0.8 | 3.3 | 3.0 | ... | ... | 23 | 25 | 29 | | |
| ▪ Textiles | 1.5 | 1.6 | 1.4 | 2.4 | 2.2 | 0.2 | 0.4 | 0.3 | 0.6 | 0.6 | 17 | 22 | 21 | 26 | 26 | | |
| ▪ Clothing | 3.5 | 6.1 | 7.1 | 11.0 | 9.5 | 0.1 | 0.2 | 0.2 | 0.5 | 0.4 | 2 | 3 | 2 | 4 | 4 | | |
| ▪ Scientific and controlling instruments | ... | ... | 0.3 | 0.8 | 0.8 | ... | ... | 0.1 | 0.3 | 0.2 | ... | ... | 19 | 37 | 31 | | |
| Total merchandise | 106.0 | 111.9 | 148.6 | 557.4 | 383.9 | 6.2 | 11.0 | 13.7 | 55.0 | 44.9 | 6 | 10 | 9 | 10 | 12 | | |
| Middle East | | | | | | | | | | | | | | | | | |
| Agricultural products | 4.4 | 6.4 | 6.1 | 18.8 | 18.2 | 1.1 | 2.4 | 2.9 | 9.9 | 10.5 | 26 | 38 | 48 | 53 | 58 | | |
| Fuels and mining products | 112.5 | 108.5 | 195.4 | 751.3 | 469.1 | 3.9 | 4.1 | 3.8 | 25.6 | 20.1 | 3 | 4 | 2 | 3 | 4 | | |
| Manufactures | 20.2 | 34.2 | 64.7 | 235.5 | 188.0 | 3.6 | 4.9 | 16.2 | 85.6 | 74.9 | 18 | 14 | 25 | 36 | 40 | | |
| ▪ Iron and steel | 0.2 | 1.0 | 1.1 | 6.5 | 4.9 | 0.1 | 0.5 | 0.6 | 4.7 | 3.6 | 40 | 48 | 59 | 73 | 75 | | |
| ▪ Chemicals | 5.2 | 10.0 | 13.8 | 54.6 | 43.3 | 0.6 | 1.3 | 2.0 | 7.6 | 8.1 | 11 | 13 | 14 | 14 | 19 | | |
| ▪ Office and telecom equipment | 1.1 | 2.7 | 9.3 | 22.8 | 19.8 | 0.1 | 0.1 | 1.5 | 10.6 | 8.3 | 8 | 3 | 16 | 47 | 42 | | |
| Electronic data processing and office equipment | ... | ... | 1.8 | 7.1 | 5.1 | ... | ... | 0.5 | 3.6 | 3.2 | ... | ... | 30 | 51 | 62 | | |
| Telecom. equipment | ... | ... | 5.8 | 14.1 | 10.7 | ... | ... | 0.9 | 6.6 | 4.9 | ... | ... | 16 | 46 | 45 | | |
| Integrated circuits and electronic components | ... | ... | 1.8 | 1.5 | 4.0 | ... | ... | 0.0 | 0.4 | 0.2 | ... | ... | 1 | 28 | 6 | | |
| ▪ Automotive products | 0.4 | 1.0 | 3.2 | 25.8 | 18.4 | 0.2 | 0.4 | 1.6 | 13.3 | 10.9 | 53 | 41 | 51 | 52 | 59 | | |
| ▪ Electrical, non-electrical and power-generating machinery | ... | ... | 7.1 | 28.4 | 22.0 | ... | ... | 2.6 | 16.1 | 11.8 | ... | ... | 37 | 57 | 53 | | |
| ▪ Textiles | 1.0 | 1.6 | 5.6 | 11.2 | 7.7 | 0.1 | 0.2 | 3.1 | 6.5 | 4.5 | 6 | 11 | 56 | 58 | 58 | | |
| ▪ Clothing | 1.0 | 1.9 | 2.5 | 6.9 | 5.5 | 0.1 | 0.1 | 0.5 | 2.8 | 2.6 | 7 | 6 | 18 | 41 | 49 | | |
| ▪ Scientific and controlling instruments | ... | ... | 1.1 | 3.1 | 2.3 | ... | ... | 0.1 | 0.7 | 0.4 | ... | ... | 7 | 24 | 18 | | |
| Total merchandise | 138.4 | 150.4 | 268.0 | 1,023.1 | 689.7 | 8.6 | 11.6 | 23.3 | 124.8 | 106.8 | 6 | 8 | 9 | 12 | 16 | | |
| Asia | | | | | | | | | | | | | | | | | |
| Agricultural products | 72.0 | 108.5 | 101.2 | 261.9 | 225.5 | 40.9 | 70.6 | 61.6 | 144.0 | 129.1 | 57 | 65 | 61 | 55 | 57 | | |
| Fuels and mining products | 65.9 | 82.1 | 120.2 | 539.7 | 385.6 | 52.4 | 69.6 | 100.1 | 432.7 | 318.4 | 80 | 85 | 83 | 80 | 83 | | |
| Manufactures | 584.6 | 1,084.3 | 1,396.3 | 3,453.5 | 2,849.5 | 210.3 | 510.9 | 635.5 | 1,552.7 | 1,344.0 | 36 | 47 | 46 | 45 | 47 | | |
| ▪ Iron and steel | 20.7 | 34.2 | 35.8 | 182.1 | 98.1 | 13.2 | 27.4 | 24.3 | 101.7 | 62.4 | 64 | 80 | 68 | 56 | 64 | | |
| ▪ Chemicals | 33.7 | 76.1 | 100.9 | 321.9 | 275.3 | 20.9 | 52.3 | 65.7 | 203.1 | 176.5 | 62 | 69 | 65 | 63 | 64 | | |

Appendix Table 7: **World merchandise exports by product and region, 1990-2009**
(Billion dollars and percentage) (continued)

| Destination | World | | | | | Intra-regional | | | | | | | | | |
|---|-------|---------|---------|---------|---------|----------------|-------|-------|---------|---------|---------------------------|------|------|------|------|
| | Value | | | | | Value | | | | | Share in exports to world | | | | |
| Origin | 1990 | 1995 | 2000 | 2008 | 2009 | 1990 | 1995 | 2000 | 2008 | 2009 | 1990 | 1995 | 2000 | 2008 | 2009 |
| ▪ Office and telecom equipment | 137.2 | 309.0 | 457.8 | 909.4 | 785.6 | 40.9 | 133.8 | 221.9 | 461.6 | 409.0 | 30 | 43 | 49 | 51 | 52 |
| Electronic data processing and office equipment | ... | ... | 177.7 | 319.5 | 270.9 | ... | ... | 69.9 | 122.2 | 101.5 | ... | ... | 39 | 38 | 38 |
| Telecom. equipment | ... | ... | 103.4 | 299.8 | 258.2 | ... | ... | 37.6 | 115.9 | 104.1 | ... | ... | 36 | 39 | 40 |
| Integrated circuits and electronic components | ... | ... | 176.7 | 290.2 | 256.5 | ... | ... | 114.5 | 223.5 | 203.4 | ... | ... | 65 | 77 | 79 |
| ▪ Automotive products | 71.4 | 95.8 | 114.5 | 289.2 | 190.8 | 12.7 | 24.4 | 21.9 | 68.8 | 59.2 | 18 | 25 | 19 | 24 | 31 |
| ▪ Electrical, non-electrical and power-generating machinery | ... | ... | 222.8 | 582.0 | 460.4 | ... | ... | 116.9 | 291.4 | 240.5 | ... | ... | 53 | 50 | 52 |
| ▪ Textiles | 36.8 | 64.8 | 69.0 | 124.0 | 111.1 | 21.3 | 42.1 | 39.3 | 54.8 | 51.3 | 58 | 65 | 57 | 44 | 46 |
| ▪ Clothing | 47.1 | 70.4 | 91.1 | 189.2 | 167.8 | 8.8 | 20.1 | 26.8 | 39.8 | 36.4 | 19 | 29 | 29 | 21 | 22 |
| ▪ Scientific and controlling instruments | ... | ... | 26.6 | 115.6 | 102.3 | ... | ... | 13.2 | 65.8 | 59.1 | ... | ... | 50 | 57 | 58 |
| Total merchandise | 739.0 | 1,303.1 | 1,658.1 | 4,372.4 | 3,575.2 | 311.1 | 666.6 | 814.7 | 2,186.8 | 1846.4 | 42 | 51 | 49 | 50 | 52 |
| Developing Asia | | | | | | | | | | | | | | | |
| Agricultural products | 51.1 | 80.9 | 73.2 | 209.8 | 178.7 | 16.1 | 30.8 | 25.8 | 83.5 | 73.9 | 31 | 38 | 35 | 40 | 41 |
| Fuels and mining products | 45.1 | 55.3 | 85.8 | 387.3 | 269.9 | 17.2 | 28.0 | 44.8 | 221.1 | 163.9 | 38 | 51 | 52 | 57 | 61 |
| Manufactures | 300.4 | 644.4 | 927.6 | 2,721.3 | 2,311.6 | 75.4 | 222.3 | 314.3 | 919.8 | 816.6 | 25 | 35 | 34 | 34 | 35 |
| ▪ Iron and steel | 7.3 | 15.2 | 20.1 | 136.0 | 66.0 | 2.8 | 8.7 | 9.8 | 53.0 | 31.2 | 38 | 58 | 49 | 39 | 47 |
| ▪ Chemicals | 16.6 | 42.8 | 62.1 | 244.1 | 206.2 | 8.7 | 26.6 | 35.4 | 123.0 | 108.3 | 53 | 62 | 57 | 50 | 53 |
| ▪ Office and telecom equipment | 69.3 | 200.3 | 347.7 | 803.6 | 704.8 | 16.2 | 65.6 | 129.8 | 329.0 | 294.3 | 23 | 33 | 37 | 41 | 42 |
| Electronic data processing and office equipment | ... | ... | 141.6 | 293.7 | 251.5 | ... | ... | 38.6 | 85.3 | 70.5 | ... | ... | 27 | 29 | 28 |
| Telecom. equipment | ... | ... | 72.1 | 264.6 | 233.5 | ... | ... | 19.6 | 78.4 | 69.3 | ... | ... | 27 | 30 | 30 |
| Integrated circuits and electronic components | ... | ... | 134.1 | 245.3 | 219.8 | ... | ... | 71.6 | 165.3 | 154.4 | ... | ... | 53 | 67 | 70 |
| ▪ Automotive products | 4.5 | 14.1 | 24.1 | 113.2 | 84.9 | 0.9 | 3.2 | 3.6 | 21.3 | 19.5 | 20 | 23 | 15 | 19 | 23 |
| ▪ Electrical, non-electrical and power-generating machinery | ... | ... | 112.6 | 408.8 | 338.7 | ... | ... | 46.2 | 144.8 | 126.8 | ... | ... | 41 | 35 | 37 |
| ▪ Textiles | 30.7 | 57.1 | 61.5 | 116.0 | 104.6 | 14.6 | 31.5 | 28.5 | 40.6 | 38.2 | 48 | 55 | 46 | 35 | 37 |
| ▪ Clothing | 46.4 | 69.5 | 90.2 | 188.2 | 166.9 | 1.6 | 4.4 | 9.7 | 14.0 | 11.5 | 3 | 6 | 11 | 8 | 7 |
| ▪ Scientific and controlling instruments | ... | ... | 10.9 | 91.9 | 82.1 | ... | ... | 3.4 | 47.1 | 43.0 | ... | ... | 32 | 51 | 52 |
| Total merchandise | 402.3 | 793.2 | 1,101.7 | 3,372.5 | 2,815.3 | 109.9 | 286.6 | 389.5 | 1,241.5 | 1,071.1 | 27 | 36 | 35 | 37 | 38 |

Appendix Table 7: World merchandise exports by product and region, 1990-2009
(Billion dollars and percentage) (continued)

| Destination | World | | | | | Intra-regional | | | | | | | | | | | |
|---|---------|---------|---------|---------|---------|----------------|---------|---------|---------|---------|---------------------------|------|------|------|------|------|--|
| | Value | | | | | Value | | | | | Share in exports to world | | | | | | |
| | Origin | 1990 | 1995 | 2000 | 2008 | 2009 | 1990 | 1995 | 2000 | 2008 | 2009 | 1990 | 1995 | 2000 | 2008 | 2009 | |
| Developing Asia excluding China | | | | | | | | | | | | | | | | | |
| Agricultural products | 41.1 | 66.0 | 56.8 | 167.5 | 137.8 | | 10.7 | 20.5 | 16.7 | 53.6 | 45.4 | 26 | 31 | 29 | 32 | 33 | |
| Fuels and mining products | 38.7 | 46.7 | 73.3 | 332.1 | 235.6 | | 14.4 | 20.8 | 31.7 | 156.9 | 113.1 | 37 | 44 | 43 | 47 | 48 | |
| Manufactures | 256.0 | 519.1 | 707.7 | 1,389.9 | 1,186.9 | | 54.3 | 165.1 | 205.6 | 407.8 | 362.7 | 21 | 32 | 29 | 29 | 31 | |
| ▪ Iron and steel | 6.0 | 10.9 | 15.7 | 65.0 | 42.4 | | 1.7 | 4.9 | 4.7 | 23.2 | 16.1 | 28 | 45 | 30 | 36 | 38 | |
| ▪ Chemicals | 12.8 | 34.2 | 50.0 | 164.8 | 144.2 | | 5.6 | 16.9 | 20.0 | 54.7 | 46.3 | 44 | 49 | 40 | 33 | 32 | |
| ▪ Office and telecom equipment | 66.5 | 186.0 | 304.2 | 421.3 | 358.3 | | 14.3 | 59.8 | 101.4 | 152.5 | 136.2 | 22 | 32 | 33 | 36 | 38 | |
| Electronic data processing and office equipment | ... | ... | 122.9 | 116.9 | 94.2 | | ... | ... | 29.4 | 33.2 | 27.7 | ... | ... | 24 | 28 | 29 | |
| Telecom. equipment | ... | ... | 52.6 | 102.6 | 84.7 | | ... | ... | 12.7 | 23.8 | 18.9 | ... | ... | 24 | 23 | 22 | |
| Integrated circuits and electronic components | ... | ... | 128.7 | 201.8 | 179.4 | | ... | ... | 59.3 | 95.6 | 89.6 | ... | ... | 46 | 47 | 50 | |
| ▪ Automotive products | 4.0 | 13.4 | 22.5 | 84.5 | 65.0 | | 0.6 | 2.8 | 3.0 | 14.2 | 12.4 | 14 | 21 | 13 | 17 | 19 | |
| ▪ Electrical, non-electrical and power-generating machinery | ... | ... | 83.1 | 193.3 | 158.8 | | ... | ... | 29.6 | 60.5 | 51.5 | ... | ... | 36 | 31 | 32 | |
| ▪ Textiles | 23.5 | 43.2 | 45.4 | 50.7 | 44.7 | | 8.9 | 18.1 | 14.9 | 15.0 | 14.0 | 38 | 42 | 33 | 30 | 31 | |
| ▪ Clothing | 36.5 | 44.4 | 54.1 | 67.8 | 59.7 | | 0.9 | 2.2 | 1.9 | 2.6 | 2.4 | 3 | 5 | 4 | 4 | 4 | |
| ▪ Scientific and controlling instruments | ... | ... | 8.3 | 56.3 | 50.7 | | ... | ... | 2.1 | 6.2 | 5.9 | ... | ... | 25 | 11 | 12 | |
| Total merchandise | 340.2 | 644.4 | 852.5 | 1,941.8 | 1,613.7 | | 80.3 | 211.4 | 258.0 | 631.5 | 534.7 | 24 | 33 | 30 | 33 | 33 | |
| Developed economies | | | | | | | | | | | | | | | | | |
| Agricultural products | 290.3 | 394.1 | 373.3 | 833.0 | 722.5 | | 224.2 | 293.0 | 285.6 | 615.0 | 533.1 | 77 | 74 | 77 | 74 | 74 | |
| Fuels and mining products | 186.4 | 217.4 | 312.5 | 1,190.2 | 768.7 | | 157.1 | 175.5 | 260.6 | 916.4 | 557.7 | 84 | 81 | 83 | 77 | 73 | |
| Manufactures | 1,943.7 | 2,793.6 | 3,390.6 | 6,727.8 | 5,280.1 | | 1,495.0 | 1,993.3 | 2,532.0 | 4,765.0 | 3,702.7 | 77 | 71 | 75 | 71 | 70 | |
| ▪ Iron and steel | 83.4 | 106.6 | 94.1 | 320.8 | 186.7 | | 60.9 | 74.4 | 70.6 | 226.5 | 120.2 | 73 | 70 | 75 | 71 | 64 | |
| ▪ Chemicals | 256.0 | 396.2 | 475.7 | 1,259.8 | 1,110.9 | | 191.9 | 288.9 | 361.5 | 950.1 | 833.6 | 75 | 73 | 76 | 75 | 75 | |
| ▪ Office and telecom equipment | 220.6 | 385.9 | 570.5 | 675.7 | 536.8 | | 166.8 | 263.1 | 387.6 | 432.7 | 343.4 | 76 | 68 | 68 | 64 | 64 | |
| Electronic data processing and office equipment | ... | ... | 214.4 | 236.9 | 192.9 | | ... | ... | 170.0 | 177.7 | 142.1 | ... | ... | 79 | 75 | 74 | |
| Telecom. equipment | ... | ... | 187.8 | 271.4 | 218.2 | | ... | ... | 138.2 | 187.6 | 152.9 | ... | ... | 74 | 69 | 70 | |
| Integrated circuits and electronic components | ... | ... | 168.4 | 167.5 | 125.7 | | ... | ... | 79.3 | 67.4 | 48.5 | ... | ... | 47 | 40 | 39 | |
| ▪ Automotive products | 301.5 | 416.7 | 506.7 | 1,003.6 | 670.8 | | 263.3 | 343.4 | 435.8 | 764.2 | 519.8 | 87 | 82 | 86 | 76 | 78 | |

Appendix Table 7: **World merchandise exports by product and region, 1990-2009**
(Billion dollars and percentage) (continued)

| Destination | World | | | | | Intra-regional | | | | | | | | | |
|---|---------|---------|---------|---------|---------|----------------|---------|---------|---------|---------|---------------------------|------|------|------|------|
| | Value | | | | | Value | | | | | Share in exports to world | | | | |
| | Origin | 1990 | 1995 | 2000 | 2008 | 2009 | 1990 | 1995 | 2000 | 2008 | 2009 | 1990 | 1995 | 2000 | 2008 |
| ▪ Electrical, non-electrical and power-generating machinery | ... | ... | 668.9 | 1,402.7 | 1,056.6 | ... | ... | 454.6 | 867.8 | 626.0 | ... | ... | 68 | 62 | 59 |
| ▪ Textiles | 67.4 | 84.2 | 79.1 | 105.7 | 81.9 | 52.9 | 59.8 | 56.7 | 73.3 | 56.2 | 79 | 71 | 72 | 69 | 69 |
| ▪ Clothing | 50.9 | 65.5 | 68.5 | 123.1 | 104.5 | 45.4 | 53.0 | 55.8 | 104.0 | 89.5 | 89 | 81 | 82 | 85 | 86 |
| ▪ Scientific and controlling instruments | ... | ... | 100.9 | 201.2 | 174.3 | ... | ... | 71.4 | 135.6 | 115.8 | ... | ... | 71 | 67 | 66 |
| Total merchandise | 2,496.6 | 3,536.2 | 4,212.4 | 9,044.7 | 7,019.4 | 1,914.9 | 2,554.9 | 3,168.0 | 6,469.9 | 4,938.5 | 77 | 72 | 75 | 72 | 70 |
| Developing economies | | | | | | | | | | | | | | | |
| Agricultural products | 111.8 | 167.8 | 165.1 | 460.5 | 407.1 | 34.1 | 65.5 | 65.6 | 231.7 | 210.3 | 31 | 39 | 40 | 50 | 52 |
| Fuels and mining products | 262.7 | 266.2 | 456.9 | 1,865.7 | 1,210.1 | 65.8 | 95.9 | 183.4 | 908.0 | 625.4 | 25 | 36 | 40 | 49 | 52 |
| Manufactures | 397.4 | 822.0 | 1,268.0 | 3,567.6 | 2,965.8 | 117.6 | 317.2 | 467.7 | 1,633.8 | 1,404.1 | 30 | 39 | 37 | 46 | 47 |
| ▪ Iron and steel | 16.0 | 28.6 | 35.0 | 202.7 | 103.2 | 7.6 | 16.1 | 17.5 | 119.3 | 71.9 | 48 | 56 | 50 | 59 | 70 |
| ▪ Chemicals | 32.1 | 71.0 | 99.8 | 376.6 | 309.3 | 16.3 | 43.9 | 62.1 | 231.6 | 198.6 | 61 | 62 | 62 | 62 | 64 |
| ▪ Office and telecom equipment | 76.2 | 216.3 | 397.6 | 894.4 | 784.4 | 19.0 | 74.7 | 148.0 | 403.2 | 358.3 | 25 | 35 | 37 | 45 | 46 |
| Electronic data processing and office equipment | ... | ... | 157.6 | 313.7 | 269.6 | ... | ... | 43.8 | 105.6 | 89.6 | ... | ... | 28 | 34 | 33 |
| Telecom. equipment | ... | ... | 100.2 | 329.8 | 287.2 | ... | ... | 29.0 | 126.5 | 108.5 | ... | ... | 29 | 38 | 38 |
| Integrated circuits and electronic components | ... | ... | 139.8 | 251.0 | 227.6 | ... | ... | 75.1 | 171.0 | 160.1 | ... | ... | 54 | 68 | 70 |
| ▪ Automotive products | 12.6 | 35.4 | 69.0 | 234.0 | 172.3 | 2.9 | 12.6 | 17.9 | 103.6 | 80.7 | 23 | 36 | 26 | 44 | 47 |
| ▪ Electrical, non-electrical and power-generating machinery | ... | ... | 163.3 | 534.3 | 435.8 | ... | ... | 65.5 | 254.3 | 216.9 | ... | ... | 40 | 48 | 50 |
| ▪ Textiles | 35.4 | 63.8 | 77.0 | 145.4 | 127.3 | 19.3 | 41.8 | 46.7 | 84.3 | 74.5 | 55 | 66 | 61 | 58 | 59 |
| ▪ Clothing | 54.4 | 85.8 | 127.8 | 239.8 | 209.6 | 4.2 | 9.2 | 17.7 | 41.6 | 35.3 | 8 | 11 | 14 | 17 | 17 |
| ▪ Scientific and controlling instruments | ... | ... | 16.8 | 106.8 | 95.3 | ... | ... | 4.8 | 59.4 | 54.2 | ... | ... | 29 | 56 | 57 |
| Total merchandise | 793.4 | 1,284.0 | 1,919.1 | 6,015.9 | 4,706.7 | 220.1 | 487.3 | 725.7 | 2,828.2 | 2,286.5 | 28 | 38 | 38 | 47 | 49 |

Source: Network of world merchandise trade tables from WTO International Trade Statistics 2010, supplemented with older network tables and Secretariat estimates prior to 2000.

Appendix Table 8: Preferential trade by importer, preferential margin and MFN rate

| Importer | Share of imports from countries receiving preferences (in per cent of total trade) | Share of trade by preferential margin (PM) and MFN rate (in per cent of total trade) | | | | | | | | | | | | | | Total trade (billion dollars) | Trade-weighted pref. margin (% points) | | |
|------------------------|--|--|--------------|-----------------|----------------|---------------|-----------------|--------------------------|---------------|------------------|-----------------|----------------|------------------|----------|---------------|-------------------------------|--|--------|-----|
| | | Preferential imports | | | | | | Non-preferential imports | | | | | | MFN zero | | | | | |
| | | Total | PM above 20% | PM 10.1% to 20% | PM 5.1% to 10% | PM 2.6% to 5% | PM 0.1% to 2.5% | Total | MFN above 20% | MFN 10.1% to 20% | MFN 5.1% to 10% | MFN 2.6% to 5% | MFN 0.1% to 2.5% | Total | with no pref. | no pref. | | | |
| TOTAL with EU-intra | 64.0 | 29.6 | 1.5 | 2.5 | 7.5 | 8.4 | 9.8 | 21.7 | 0.6 | 2.2 | 5.4 | 7.3 | 6.2 | 47.3 | 27.9 | 19.4 | 1.4 | 13,552 | 2.1 |
| TOTAL without EU-intra | 50.0 | 16.3 | 0.5 | 1.3 | 3.9 | 4.0 | 6.5 | 30.2 | 0.8 | 3.0 | 7.5 | 10.2 | 8.7 | 52.3 | 25.3 | 27.0 | 1.2 | 9,745 | 1.0 |
| EU-intra | 100.0 | 63.7 | 3.9 | 5.5 | 16.7 | 19.6 | 18.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 34.4 | 34.4 | 0.0 | 1.8 | 3,807 | 4.9 |
| EU-extra | 69.8 | 16.9 | 0.3 | 2.2 | 3.0 | | 5.3 | 26.1 | 0.6 | 2.6 | 4.4 | 6.9 | 11.5 | 56.5 | 41.9 | 14.6 | 0.5 | 2,287 | 0.9 |
| United States | 48.1 | 23.1 | 0.7 | 0.7 | 1.9 | 3.9 | 15.9 | 33.7 | 0.5 | 2.5 | 4.5 | 6.1 | 20.1 | 42.8 | 16.5 | 26.3 | 0.4 | 2,098 | 0.7 |
| China | 28.4 | 5.8 | 0.1 | 0.2 | 1.6 | 1.0 | 2.8 | 41.7 | 0.5 | 2.4 | 19.2 | 14.0 | 5.6 | 48.4 | 15.4 | 32.9 | 4.2 | 1,034 | 0.3 |
| Japan | 50.0 | 6.0 | 0.0 | 0.1 | 0.6 | 3.6 | 1.7 | 12.5 | 1.0 | 1.9 | 4.3 | 4.8 | 0.5 | 80.4 | 38.5 | 41.9 | 1.1 | 748 | 0.2 |
| Korea, Rep. of | 36.7 | 9.5 | 0.0 | 0.1 | 1.1 | 2.4 | 5.9 | 59.2 | 1.9 | 1.2 | 20.6 | 32.4 | 3.1 | 30.2 | 13.7 | 16.4 | 1.2 | 434 | 0.3 |
| Canada | 80.3 | 35.4 | 0.1 | 1.6 | 25.9 | 4.7 | 3.0 | 9.1 | 0.1 | 2.3 | 5.5 | 0.5 | 0.7 | 55.4 | 42.1 | 13.3 | 0.1 | 371 | 2.2 |
| Hong Kong, China | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 0.0 | 100.0 | 0.0 | 369 | 0.0 |
| Mexico | 75.8 | 48.2 | 5.9 | 9.9 | 31.2 | 0.7 | 0.5 | 10.3 | 1.1 | 3.3 | 5.9 | 0.0 | 0.0 | 38.1 | 22.7 | 15.4 | 3.4 | 303 | 9.3 |
| Singapore | 62.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 62.6 | 37.4 | 0.0 | 243 | 0.1 |
| Taipei, Chinese | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 26.0 | 1.0 | 1.5 | 4.3 | 12.5 | 6.7 | 73.9 | 2.1 | 71.9 | 0.0 | 232 | 0.0 |
| India | 41.1 | 5.0 | 0.1 | 0.0 | 0.9 | 1.0 | 3.0 | 79.9 | 1.2 | 0.3 | 35.3 | 41.1 | 2.0 | 10.2 | 4.4 | 5.8 | 4.9 | 215 | 0.2 |
| Russian Federation | 38.8 | 14.1 | 0.6 | 3.3 | 2.3 | 5.9 | 2.1 | 71.2 | 0.9 | 20.2 | 15.5 | 28.4 | 6.2 | 13.3 | 4.9 | 8.4 | 1.4 | 188 | 1.3 |
| Australia | 64.3 | 13.5 | 0.0 | 0.1 | 1.2 | 9.8 | 2.4 | 33.8 | 0.0 | 2.2 | 7.3 | 24.2 | 0.0 | 52.5 | 36.7 | 15.8 | 0.3 | 187 | 0.6 |
| Turkey | 86.3 | 39.7 | 0.3 | 1.5 | 10.7 | 20.1 | 7.1 | 21.6 | 3.1 | 1.2 | 6.0 | 8.6 | 2.6 | 36.9 | 31.2 | 5.7 | 1.8 | 186 | 1.9 |
| Switzerland | 89.4 | 53.9 | 1.3 | 3.5 | 8.7 | 9.8 | 30.6 | 7.7 | 0.6 | 0.3 | 0.9 | 0.7 | 5.2 | 38.2 | 33.4 | 4.8 | 0.2 | 182 | 2.2 |
| Brazil | 16.0 | 12.3 | 2.9 | 4.1 | 3.8 | 0.4 | 1.0 | 50.4 | 2.0 | 35.2 | 6.6 | 1.2 | 5.4 | 36.9 | 3.5 | 33.4 | 0.5 | 172 | 2.0 |
| United Arab Emirates | 5.9 | 5.1 | 0.0 | 0.0 | 0.0 | 5.1 | 0.0 | 72.2 | 0.1 | 0.0 | 0.0 | 70.7 | 1.4 | 22.5 | 0.8 | 21.6 | 0.2 | 153 | 0.2 |
| Malaysia | 38.4 | 4.5 | 0.8 | 1.6 | 0.8 | 1.0 | 0.1 | 10.2 | 4.2 | 1.6 | 0.8 | 3.6 | 0.0 | 78.0 | 28.8 | 49.1 | 7.4 | 143 | 0.7 |
| Thailand | 18.6 | 7.2 | 0.8 | 0.7 | 1.3 | 2.3 | 2.0 | 53.6 | 3.9 | 4.5 | 14.3 | 15.6 | 15.3 | 39.2 | 8.8 | 30.4 | 0.0 | 126 | 0.6 |
| Indonesia | 47.9 | 24.3 | 0.9 | 0.6 | 2.8 | 4.0 | 16.0 | 33.3 | 1.1 | 2.7 | 4.5 | 16.0 | 9.0 | 37.7 | 12.9 | 24.9 | 4.6 | 74 | 0.9 |

Source: ITC TradeMap, WITS (TRAINS), UN Comtrade, US ITC, TARIC.

Appendix Table 9: Preferential trade by importer, duties and average preference margin

| Importer | Trade and duties (billion dollars) | | | | Indicators (in per cent) | | | |
|-------------------------------|------------------------------------|--------------|-------------------|----------------|------------------------------|-------------------------|---------------------------|--|
| | Total imports | MFN duties | Duties with pref. | Duties "saved" | Pref. duties over MFN duties | MFN duties over imports | Pref. duties over imports | Trade-weighted preferential margin (percentage points) |
| TOTAL with EU-intra | 13,552 | 491.8 | 210.8 | 281.0 | 42.9 | 3.6 | 1.6 | 2.1 |
| TOTAL without EU-intra | 9,745 | 306.4 | 210.8 | 95.7 | 68.8 | 3.1 | 2.2 | 1.0 |
| EU-intra | 3,807 | 185.4 | 0.0 | 185.4 | 0.0 | 4.9 | 0.0 | 4.9 |
| EU-extra | 2,287 | 57.2 | 36.3 | 20.9 | 63.4 | 2.5 | 1.6 | 0.9 |
| United States | 2,098 | 42.7 | 27.8 | 14.9 | 65.1 | 2.0 | 1.3 | 0.7 |
| China | 1,034 | 32.4 | 29.8 | 2.6 | 92.0 | 3.1 | 2.9 | 0.3 |
| Japan | 748 | 11.2 | 9.4 | 1.7 | 84.3 | 1.5 | 1.3 | 0.2 |
| Korea, Rep. of | 434 | 32.0 | 30.9 | 1.2 | 96.4 | 7.4 | 7.1 | 0.3 |
| Canada | 371 | 11.5 | 3.5 | 8.0 | 30.7 | 3.1 | 1.0 | 2.2 |
| Hong Kong, China | 369 | 0.0 | 0.0 | 0.0 | ... | 0.0 | 0.0 | 0.0 |
| Mexico | 303 | 33.5 | 5.2 | 28.3 | 15.6 | 11.1 | 1.7 | 9.3 |
| Singapore | 243 | 0.5 | 0.1 | 0.3 | 30.3 | 0.2 | 0.1 | 0.1 |
| Taipei, Chinese | 232 | 3.7 | 3.7 | 0.0 | 99.9 | 1.6 | 1.6 | 0.0 |
| India | 215 | 13.6 | 13.3 | 0.3 | 97.4 | 6.3 | 6.2 | 0.2 |
| Russian Federation | 188 | 14.8 | 12.4 | 2.4 | 83.9 | 7.9 | 6.6 | 1.3 |
| Australia | 187 | 5.8 | 4.6 | 1.2 | 79.1 | 3.1 | 2.5 | 0.6 |
| Turkey | 186 | 7.6 | 4.1 | 3.5 | 53.5 | 4.1 | 2.2 | 1.9 |
| Switzerland | 182 | 5.6 | 1.5 | 4.1 | 26.5 | 3.1 | 0.8 | 2.2 |
| Brazil | 172 | 15.1 | 11.7 | 3.4 | 77.7 | 8.8 | 6.8 | 2.0 |
| United Arab Emirates | 153 | 5.9 | 5.5 | 0.4 | 93.5 | 3.9 | 3.6 | 0.2 |
| Malaysia | 143 | 4.2 | 3.2 | 1.0 | 77.0 | 2.9 | 2.3 | 0.7 |
| Thailand | 126 | 6.5 | 5.8 | 0.8 | 88.3 | 5.2 | 4.6 | 0.6 |
| Indonesia | 74 | 2.7 | 2.0 | 0.7 | 73.8 | 3.6 | 2.7 | 0.9 |

Source: ITC TradeMap, WITS (TRAINS), UN Comtrade, US ITC, TARIC.

Appendix Table 10: Preferential trade by exporter, 30 largest exporters

| Exporter | Share of exports to countries granting preferences (in per cent of total trade) | Share of trade by preferential margin (PM) and MFN rate (in per cent of total trade) | | | | | | | | | | | | Total trade (billion dollars) | Trade-weighted pref. margin (% points) | Coverage (share of total exports covered by dataset in per cent) | | | | |
|-------------------------------|---|--|--------------|-----------------|----------------|---------------|--------------------------|-------|---------------|------------------|-----------------|----------------|------------------|-------------------------------|--|--|-----|---------|-----|----|
| | | Preferential exports | | | | | Non-preferential exports | | | | | MFN zero | | | | | | | | |
| | | Total | PM above 20% | PM 10.1% to 20% | PM 5.1% to 10% | PM 2.6% to 5% | PM 0.1% to 2.5% | Total | MFN above 20% | MFN 10.1% to 20% | MFN 5.1% to 10% | MFN 2.6% to 5% | MFN 0.1% to 2.5% | Total | with pref. | no pref. | | | | |
| TOTAL | 50.0 | 16.3 | 0.5 | 1.3 | 3.9 | 4.0 | 6.5 | 30.2 | 0.8 | 3.0 | 7.5 | 10.2 | 8.7 | 52.3 | 25.3 | 27.0 | 1.2 | 9,744.5 | 1.0 | 89 |
| China | 54.6 | 5.5 | 0.0 | 0.1 | 0.5 | 2.4 | 2.4 | 38.4 | 0.6 | 8.5 | 9.9 | 13.2 | 6.1 | 55.4 | 25.6 | 29.7 | 0.7 | 1,406.0 | 0.2 | 90 |
| EU-extra | 20.7 | 13.1 | 0.4 | 1.1 | 3.7 | 3.2 | 4.8 | 42.1 | 0.7 | 4.9 | 12.8 | 13.3 | 10.4 | 43.1 | 6.9 | 36.1 | 1.7 | 1,231.9 | 0.8 | 92 |
| United States | 39.0 | 21.7 | 1.2 | 2.5 | 15.8 | 1.8 | 0.4 | 30.2 | 0.9 | 2.1 | 7.4 | 9.0 | 10.8 | 46.5 | 16.8 | 29.7 | 1.6 | 1,011.0 | 2.8 | 86 |
| Japan | 4.8 | 0.5 | 0.2 | 0.0 | 0.1 | 0.1 | 0.1 | 57.7 | 1.2 | 2.7 | 20.8 | 16.4 | 16.5 | 39.6 | 3.6 | 36.0 | 2.3 | 703.9 | 0.1 | 91 |
| Canada | 80.1 | 45.7 | 1.1 | 0.6 | 5.3 | 5.7 | 33.0 | 7.5 | 0.3 | 0.5 | 2.0 | 1.9 | 2.8 | 46.4 | 34.1 | 12.4 | 0.3 | 419.0 | 1.4 | 96 |
| Korea, Rep. of | 43.6 | 7.7 | 0.0 | 0.0 | 0.1 | 0.5 | 7.2 | 39.5 | 0.7 | 2.2 | 10.0 | 14.6 | 11.9 | 51.0 | 17.5 | 33.5 | 1.8 | 358.6 | 0.1 | 90 |
| Russian Federation | 81.2 | 5.7 | 0.0 | 0.0 | 0.1 | 3.4 | 2.2 | 16.5 | 0.9 | 0.1 | 3.1 | 4.0 | 8.4 | 77.6 | 65.4 | 12.2 | 0.2 | 325.3 | 0.2 | 80 |
| Taipei, Chinese | 1.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 39.7 | 0.5 | 2.7 | 13.5 | 16.2 | 6.7 | 58.3 | 0.5 | 57.8 | 1.9 | 284.3 | 0.0 | 93 |
| Kingdom of Saudi Arabia | 33.7 | 4.3 | 0.0 | 0.0 | 0.0 | 3.6 | 0.6 | 41.1 | 0.0 | 0.0 | 2.0 | 17.9 | 21.2 | 54.5 | 29.4 | 25.1 | 0.1 | 273.1 | 0.2 | 88 |
| Mexico | 97.8 | 63.9 | 3.6 | 2.2 | 7.4 | 17.5 | 33.2 | 1.8 | 0.1 | 0.1 | 0.6 | 0.9 | 0.1 | 34.0 | 32.4 | 1.6 | 0.3 | 263.1 | 3.0 | 94 |
| Malaysia | 73.9 | 14.0 | 0.2 | 0.4 | 2.1 | 5.0 | 6.3 | 14.1 | 0.3 | 0.9 | 4.1 | 7.0 | 1.9 | 70.2 | 49.3 | 20.9 | 1.6 | 211.3 | 0.6 | 93 |
| Switzerland | 67.0 | 34.1 | 0.4 | 1.1 | 5.1 | 9.8 | 17.8 | 14.9 | 0.1 | 1.5 | 8.1 | 4.0 | 1.3 | 48.9 | 31.8 | 17.2 | 2.0 | 191.7 | 1.2 | 90 |
| Australia | 9.4 | 2.9 | 0.0 | 0.0 | 0.1 | 0.3 | 2.4 | 21.1 | 3.0 | 0.8 | 4.2 | 9.1 | 4.0 | 75.4 | 5.9 | 69.5 | 0.6 | 167.3 | 0.1 | 90 |
| Singapore | 63.9 | 18.9 | 0.3 | 0.8 | 5.1 | 5.7 | 6.9 | 13.3 | 0.3 | 0.4 | 2.1 | 3.3 | 7.2 | 66.4 | 39.1 | 27.3 | 1.4 | 161.8 | 0.9 | 86 |
| Thailand | 88.5 | 26.8 | 0.8 | 1.0 | 5.1 | 12.9 | 7.1 | 15.1 | 1.8 | 2.7 | 3.9 | 4.1 | 2.6 | 54.1 | 46.5 | 7.6 | 4.0 | 152.9 | 1.5 | 87 |
| India | 76.8 | 25.9 | 0.0 | 0.1 | 2.5 | 11.1 | 12.2 | 24.7 | 0.8 | 3.2 | 5.9 | 12.6 | 2.2 | 48.3 | 35.8 | 12.5 | 1.1 | 151.6 | 0.8 | 81 |
| Brazil | 74.8 | 15.3 | 1.2 | 1.3 | 1.8 | 6.5 | 4.5 | 26.4 | 2.0 | 2.4 | 4.1 | 8.3 | 9.6 | 56.9 | 40.6 | 16.2 | 1.4 | 150.5 | 1.2 | 73 |
| Norway | 85.0 | 18.1 | 0.1 | 0.7 | 7.4 | 5.2 | 4.7 | 8.7 | 0.2 | 0.5 | 2.3 | 1.5 | 4.3 | 72.9 | 64.9 | 8.0 | 0.3 | 140.0 | 0.8 | 97 |
| Indonesia | 90.7 | 20.6 | 0.6 | 0.7 | 3.0 | 8.4 | 7.8 | 15.6 | 1.2 | 3.1 | 3.7 | 5.8 | 1.9 | 61.3 | 54.8 | 6.6 | 2.4 | 139.1 | 1.0 | 92 |
| United Arab Emirates | 9.5 | 3.8 | 0.0 | 0.0 | 0.1 | 2.3 | 1.4 | 27.9 | 0.1 | 0.1 | 4.3 | 22.5 | 0.9 | 68.0 | 4.8 | 63.3 | 0.3 | 115.7 | 0.1 | 81 |
| Turkey | 84.8 | 64.8 | 0.4 | 20.5 | 17.7 | 15.3 | 10.9 | 16.9 | 0.3 | 2.5 | 2.3 | 10.8 | 1.0 | 17.6 | 13.3 | 4.3 | 0.8 | 91.6 | 5.0 | 81 |
| Iran, Islamic Rep. | 69.3 | 2.0 | 0.0 | 0.0 | 0.0 | 1.1 | 0.7 | 22.6 | 0.1 | 0.0 | 1.4 | 19.4 | 1.8 | 75.4 | 48.1 | 27.3 | 0.1 | 91.5 | 0.1 | 91 |
| Nigeria | 88.5 | 48.4 | 0.0 | 0.0 | 0.1 | 0.3 | 48.1 | 9.0 | 0.0 | 0.0 | 0.1 | 8.8 | 0.0 | 42.0 | 30.7 | 11.3 | 0.6 | 80.9 | 0.1 | 93 |
| South Africa | 70.4 | 21.5 | 0.1 | 0.2 | 3.1 | 7.8 | 10.2 | 15.1 | 0.2 | 0.8 | 4.8 | 7.0 | 2.3 | 62.4 | 46.0 | 16.4 | 1.0 | 76.5 | 0.8 | 80 |
| Venezuela, Bolivarian Rep. of | 88.2 | 2.9 | 0.0 | 0.1 | 0.9 | 1.4 | 0.6 | 71.5 | 0.0 | 0.0 | 1.1 | 1.2 | 69.2 | 25.5 | 16.8 | 8.7 | 0.0 | 74.1 | 0.1 | 90 |
| Kuwait | 11.6 | 5.6 | 0.0 | 0.0 | 0.0 | 5.5 | 0.1 | 39.1 | 0.1 | 0.0 | 1.5 | 25.4 | 12.2 | 55.2 | 6.0 | 49.2 | 0.1 | 72.0 | 0.3 | 90 |
| Philippines | 84.9 | 11.6 | 0.9 | 0.3 | 1.7 | 5.5 | 3.3 | 7.6 | 0.9 | 2.2 | 1.1 | 2.5 | 0.9 | 78.9 | 64.7 | 14.2 | 1.9 | 69.3 | 0.7 | 97 |
| Algeria | 93.7 | 4.1 | 0.0 | 0.0 | 0.6 | 1.3 | 2.2 | 31.8 | 0.0 | 0.0 | 1.0 | 1.9 | 28.8 | 61.6 | 55.3 | 6.2 | 2.5 | 66.0 | 0.1 | 97 |
| Chile | 95.4 | 27.3 | 0.5 | 2.5 | 8.5 | 4.6 | 11.3 | 7.0 | 0.4 | 1.3 | 0.3 | 0.6 | 4.5 | 63.5 | 59.5 | 4.0 | 2.2 | 62.3 | 1.7 | 90 |
| Qatar | 11.8 | 2.0 | 0.0 | 0.0 | 0.0 | 1.5 | 0.5 | 28.9 | 0.0 | 0.0 | 1.0 | 27.3 | 0.5 | 69.1 | 6.4 | 62.7 | 0.0 | 60.4 | 0.1 | 95 |

Source: ITC TradeMap, WITS (TRAINS), UN Comtrade, US ITC, TARIC.

Appendix Table 11: Shares of preferential trade and duty reductions from reciprocal preference schemes by importer

| Importer | Preferential imports under reciprocal regimes / all preferential imports (per cent) | Duty reduction under reciprocal regimes / overall duty reduction (per cent) |
|----------------------|---|---|
| Total | 77.1 | 87.7 |
| EU-extra | 59.5 | 68.1 |
| United States | 74.0 | 87.2 |
| China | 99.5 | 99.2 |
| Japan | 27.4 | 25.4 |
| Korea, Rep. of | 99.1 | 98.6 |
| Canada | 86.8 | 91.6 |
| Mexico | 100.0 | 100.0 |
| Singapore | 100.0 | 100.0 |
| Taipei, Chinese | 70.2 | 87.7 |
| India | 94.3 | 97.7 |
| Russian Federation | 100.0 | 100.0 |
| Australia | 80.1 | 92.1 |
| Turkey | 75.5 | 80.4 |
| Switzerland | 91.8 | 90.5 |
| Brazil | 100.0 | 100.0 |
| United Arab Emirates | 100.0 | 100.0 |
| Malaysia | 100.0 | 100.0 |
| Thailand | 100.0 | 100.0 |
| Indonesia | 100.0 | 100.0 |

Source: ITC TradeMap, WITS (TRAINs), UN Comtrade, US ITC, TARIC.

Bibliography

- Accominotti, O. and Flandreau, M. (2008), "Bilateral treaties and the most-favoured nation clause: the myth of trade liberalization in the nineteenth century", *World Politics* 60(2): 147-188.
- Acharya, R., Crawford, J. A., Maliszewska, M. and Renard, C. (2011), "Landscape", in Chauffour, J. P. and Maur, J.C. (eds), *Preferential Trade Agreement Policies for Development: a Handbook*, Washington DC: The World Bank.
- Adlung, R. and Molinuevo, M. (2008), "Bilateralism in services trade: is there fire behind the (BIT) smoke?", *Journal of International Economic Law* 11(2): 365-409.
- Adlung, R. and Morrison, P. (2010), "Less than the GATS: "negative preferences" in regional services agreements", *Journal of International Economic Law* 13(4): 1103-1143.
- Aggarwal, V. K. and Koo, M. G. (2005), "The Evolution and Implications of Bilateral Trade Agreements in the Asia-Pacific", in Aggarwal, V. and Urata, S. (eds), *Bilateral Trade Agreements in the Asia-Pacific*, [13] New York: Routledge.
- Aitken, N. D. (1973), "The effect of the EEC and EFTA on European trade: a temporal cross-section analysis", *The American Economic Review* 63(5): 881-892.
- Alesina, A., Angeloni, I. and Schuknecht, L. (2005), "What does the European do?", *Public Choice* 123(3): 275-319.
- Alesina, A. and Spolaore, E. (1997), "On the number and size of nations", *The Quarterly Journal of Economics* 112(4): 1027-1056.
- Alesina, A. and Spolaore, E. (2005), "War, peace, and the size of countries", *Journal of Public Economics* 89(7): 1333-1354.
- Alexandraki, K. and Lankes, H. P. (2004), "The impact of preference erosion on middle-income developing countries", Washington DC, International Monetary Fund Working Paper No. WP/04/169.
- Amin, M. (2003), *Time Inconsistency of Trade Policy and Multilateralism*, New York: Columbia University.
- Amiti, M. and Romalis, J. (2007), "Will the Doha Round lead to preference erosion?", Washington DC, IMF Staff Papers 54(2).
- Anderson, J. E. and van Wincoop, E. (2003), "Gravity with gravitas: a solution to the border puzzle", *American Economic Review* 93(1): 170-192.
- Anderson, J. E. and van Wincoop, E. (2004), "Trade costs", *Journal of Economic Literature* 42(3): 691-751.
- Anderson, K. and Blackhurst, R. (1993), *Regional Integration and the Global Trading System*, New York: St. Martin's Press.
- Anderson, R. D. and Evenett, S. (2006), "Incorporating competition elements in regional trade agreements: characterization and empirical analysis", Working Paper. Available at <http://www.evenett.com/research/workingpapers/CompPrinInRTAs.pdf>. Accessed on 27 May 2011.
- Anderson, R. D., Müller, A. C., Osei-Lah, K., Pardo de Leon, J. and Pelletier, P. (2010), "Government procurement provisions in regional trade agreements: a stepping stone to GPA accession?", in Arrowsmith, S. and Anderson, R. D. (ed), *The WTO Regime on Government Procurement*, [20] Cambridge: Cambridge University Press: 561-656.
- Ando, M. (2005), "Fragmentation and vertical intra-industry trade in East Asia", paper presented on Claremont Regional Integration Workshop with Particular Reference to Asia. Available on <http://www.sciencedirect.com/science/article/B6W5T...cfee1a6be8d384b764d2>. Accessed on 31 March 2011.
- Ando, M. and Kimura, F. (2005), "The formation of international production and distribution networks in East Asia", in Ito, T. and Rose, A. (eds), *International trade in East Asia, NBER-East Asia Seminar on Economics, Volume 14*, Chicago: University of Chicago Press: 177-216.
- Andriamananjara, S. and Shiff, M. (2001), "Regional cooperation among microstates", *Review of International Economics* 9(1): 42-51.
- Antràs, P. and Staiger, R. (2008), "Offshoring and the role of trade agreements", NBER Working Papers Cambridge MA. National Bureau of Economic Research (NBER) Working Paper No. 14285.
- Arcand, J. L., Olarreaga, M. and Zoratto, L. (2010), "Weak governments and trade agreements", Geneva, WTO Geneva Trade and Development Workshop. Available on http://www.wto.org/english/res_e/reser_e/gtdw_e/wkshop10_e/spring10_e.htm. Accessed on 31 March 2011.
- Arndt, S. and Kierzkowski, H. (2001), *Fragmentation: New Integration and the Global Trading System*, New York: St. Martin's Press.
- Arndt, S. (2004a), "Global production networks and regional integration", in Plummer, M. (ed), *Empirical Methods in International Trade*, Cheltenham: Edward Elgar: 129-144.
- Arndt, S. (2004b), "Trade diversion and production sharing", Claremont McKenna College, Claremont College Working Paper series 2004-01.
- Athukorala, P. C. and Menon, J. (2010), "Global production networks and regional integration", Manila, Asian Development Bank (ADB) Working Papers series on regional economic integration No. 41.
- Augier, P., Gasiorek, M. and Tong C.L. (2005), "The impact of rules of origin on trade flows", *Economic Policy* 20(43): 567-624.
- Augier, P., Gasiorek, M. and Tong, L. C. (2004), "Rules of origin and the EU-Med partnership: the case of Textilest", *The World Economy* 27(9): 1449-1473.
- Baccini, L. and Dür, A. (2010), "Investment discrimination and the proliferation of preferential trade agreements", Paper prepared for the 2010 conference of the International Political Economy Society, November 12-13, 2010. Available at [http://graduateinstitute.ch/webdav/site/ctei/shared/CTEI/events/EU%20bilaterals/Baccini_Dur\(2010\).pdf](http://graduateinstitute.ch/webdav/site/ctei/shared/CTEI/events/EU%20bilaterals/Baccini_Dur(2010).pdf). Accessed on 2 May 2011.
- Bagwell, K. and Staiger, R. W. (1997a), "Multilateral tariff cooperation during the formation of customs unions", *Journal of International Economics* 42(1-2): 91-123.
- Bagwell, K. and Staiger, R. W. (1997b), "Multilateral tariff cooperation during the formation of free trade areas", *International Economic Review* 38(2): 291-319.
- Bagwell, K. and Staiger, R. W. (1998), "Will preferential agreements undermine the multilateral trading system?", *Economic Journal* 108(449): 1162-1182.
- Bagwell, K. and Staiger, R. W. (1999a), "An economic theory of GATT", *American Economic Review* 89(1): 215-248.
- Bagwell, K. and Staiger, R. W. (1999b), "Regionalism and multilateral tariff cooperation", in Piggott, J. and Woodland, A. (eds), *International Trade Policy and the Pacific Rim*, New York: St Martin's Press: 157-185.
- Bagwell, K. and Staiger, R. W. (2002), *The Economics of the World Trading System*, Cambridge MA: The MIT Press. MIT Press Books.

- Bagwell, K. and Staiger, R. (2011), "What do trade negotiators negotiate about? Empirical evidence from the World Trade Organization", *American Economic Review* forthcoming 2011.
- Baier, S. L. and Bergstrand, J. H. (2004), "Economic determinants of free trade agreements", *Journal of International Economics* 64(1): 29-63.
- Baier, S. L. and Bergstrand, J. H. (2007), "Do free trade agreements actually increase members' international trade?", *Journal of International Economics* 71(1): 72-95.
- Baier, S. L. and Bergstrand, J. H. (2009), "Estimating the effects of free trade agreements on international trade flows using matching econometrics", *Journal of International Economics* 77(1): 63-76.
- Bairoch, P. (1989), "European trade policy 1815-1914", in Mathias, P. and Pollard, S. (eds), *Cambridge Economic History of Europe, vol VIII: The Industrial Economies: The Development of Economic and Social Policies*, Cambridge UK: Cambridge University Press: 1-160.
- Baldwin, R. (1993), "A domino theory of regionalism", NBER Working Papers Cambridge MA. National Bureau of Economic Research (NBER) Working Paper No. 4465.
- Baldwin, R. (1995), "A domino theory of regionalism", in Baldwin, R., Haarapanta, P., and Kiander, J. (eds), *Expanding Membership of the EU*, Cambridge UK: Cambridge University Press, Cambridge Books : 25-48.
- Baldwin, R. (2006), "Multilateralising regionalism: spaghetti bowls as building blocs on the path to global free trade", *The World Economy* 29(11): 1451-1518.
- Baldwin, R. (2009), "Big-think regionalism: a critical survey", in Estevedoordal, A., Suominen, K., and Teh, R. (eds), *Regional Rules in the Global Trading System*, [2] Cambridge, UK: Cambridge University Press: 17-95.
- Baldwin, R. (2010), "21st Century Regionalism: Filling the gap between 21st century trade and 20th century trade rules", Geneva, Geneva Graduate Institute, Working Paper No. 2010-31.
- Baldwin, R., Evenett, S. and Low, P. (2009), "Beyond tariffs: multilateralizing non-tariff RTA commitments", in Baldwin, R. and Low, P. (eds), *Multilateralizing Regionalism: Challenges for the Global Trading System*, [3] Cambridge: Cambridge University Press: 79-141.
- Baldwin, R. and Jaimovich, D. (2010), "Are free trade agreements contagious?", NBER Working Papers Cambridge MA. National Bureau of Economic Research (NBER) Working Paper No. 16084.
- Baldwin, R. and Robert-Nicoud, F. (2008), "A simple model of the Juggernaut effect of trade liberalization", London, London School of Economics, CEP Discussion Paper No. 845.
- Baldwin, R. and Thornton, P. (2008), *Multilateralising Regionalism. Ideas for a WTO Action Plan on Regionalism*, London: CEPR.
- Baldwin, R. and Venables, A. J. (1995), "Regional economic integration", in Grossman, G. M. and Rogoff, K. (eds), *Handbook of International Economics*, Amsterdam: Elsevier: 1597-1644.
- Baldwin, R. and Wyplosz, C. (2004), *The Economics of European Integration*, London: McGraw Hill.
- Berger, A., Busse, M., Nunnenkamp, P. and Roy, M. (2010), "Do trade and investment agreements lead to more FDI? Accounting for key provisions inside the black box", Geneva, World Trade Organization, WTO Working Paper No. 2010-13.
- Bergsten, C. F. and Schott, J. J. (1997), "A preliminary evaluation of NAFTA", Washington DC, Petersen Institute for International Economics. Available at <http://www.iie.com/publications/testimony/testimony.cfm?ResearchID=288>. Accessed on 2 May 2011.
- Bergstrand, J. H. (1985), "The gravity equation in international trade: some microeconomic foundations and empirical evidence", *The Review of Economics and Statistics* 67(3): 474-481.
- Bergstrand, J. H., Egger, P. and Larch, M. (2010), "Economic determinants of the timing of preferential trade agreement formations and enlargements", Notre Dame, University of Notre Dame, Working Paper.
- Besley, T. and Coate, S. (2003), "Centralized versus decentralized provision of local public goods: a political economy approach", *Journal of Public Economics* 87(12): 2611-2637.
- Bhagwati, J. (1991), *The World Trading System at Risk*, Cambridge, MA: MIT Press.
- Bhagwati, J. (1992), "Regionalism vs. multilateralism", *The World Economy* 15(5): 535-556.
- Bhagwati, J. (1993), "Regionalism and multilateralism: An overview", in de Melo, J. and Panagariya, A. (eds), *New Dimensions in Regional Integration*, [2] Cambridge: Cambridge University Press: 22-50.
- Bhagwati, J. (1995), "U.S. trade policy: the infatuation with free trade areas", in Bhagwati, J. and Krueger, A.O. (eds), *The Dangerous Drift to Preferential Trade Agreements*, Washington DC: The AEI Press: 1-18.
- Bhagwati, J. (2008), *Termites in the Trading System: How Preferential Agreements Undermine Free Trade*, Oxford: Oxford University Press.
- Bhagwati, J. and Panagariya, A. (1996), *The Economics of Preferential Trade Agreements*, Washington DC: AEI Press.
- Birdsall, N. and Lawrence, R. Z. (1999), "Deep integration and trade agreements: good for developing countries?", in Kaul, I., Grunberg, I., and Stern, M. (eds), *Global Public Goods: International Cooperation in the 21st century*, New York Oxford: Oxford University Press: 128-151.
- Blanchard, E. (2005), "Foreign direct investment, endogenous tariffs, and preferential trade agreements", SSRN Working Paper No. 691469. Available at <http://ssm.com/abstract=691469>. Accessed on 4 April 2011.
- Bolton, P. and Roland.G.. (1997), "The breakup of nations: a political economy analysis", *The Quarterly Journal of Economics* 112(4): 1057-1090.
- Brada, J. and Mendez, J. (1985), "Economic integration among developed, developing, and centrally planned economies: a comparative analysis", *Review of Economics and Statistics* 67(4): 549-556.
- Brainard, S. L. (1993), "A simple theory of multinational corporations and trade with a trade-off between proximity and concentration", NBER Working Papers Cambridge MA. National Bureau of Economic Research (NBER) Working Paper No. 4269.
- Brainard, S. L. (1997), "An empirical assessment of the proximity-concentration trade-off between multinational sales and trade", *American Economic Review* 87(4): 520-544.
- Braun, H. J. (1990), *The German Economy in the Twentieth Century: the German Reich and the Federal Republic*, New York, London: Routledge.

- Brenton, P. and Ikezuki, T. (2004) *The initial and potential impact of preferential access to the U.S. market under the African Growth and Opportunity Act*, Washington DC, The World Bank. Policy Research Working Paper Series.
- Broda, C., Limao, N. and Weinstein, D. N. (2008), "Optimal tariffs and market power: the evidence", *American Economic Review* 98(5): 2032-2065.
- Broner, F. and Ventura, J. (2006), "Globalization and risk sharing", mimeo, CREI and Universitat Pompeu Fabra.
- Brou, D. and Ruta, M. (2006), "Special interests and the gains from political integration", *Economics and Politics* 18(2): 191-218.
- Brou, D. and Ruta, M. (2010), "Economic integration, political integration, or both?", *Journal of the European Economic Association* forthcoming.
- Brown, A. (2003), *Reluctant partners. A history of multilateral trade cooperation, 1850-2000*, Ann Arbor: The University of Michigan Press.
- Brown, A. and Stern, R. (2011), "Free Trade Agreements and Governance of the Global Trading System", UC Berkeley, Goldman School of Public Policy, GSPP11-003.
- Brown, D. K. (1994), "Properties of computable general equilibrium trade models with monopolistic competition and foreign direct investment", in Francois, J. and Shiells, C.R. (eds), *Modelling Trade Policy: Applied General Equilibrium Assessments of North American Free Trade*, New York: Cambridge University Press: 124-150.
- Brown, D. K., Deardorff, A. and Stern, M. (1995), "Estimates of a North American free trade agreement", in Kehoe, P. J. and Kehoe, T.J. (eds), *Modelling North American Economic Integration*, Boston: Kluwer Academic Publisher: 59-74.
- Brown, D. K., Deardorff, A. and Stern, R. (1992), "A North American free trade agreement: analytical issues and a computational assessment", *The World Economy* 15(1): 11-30.
- Brusik, P., Alvarez, A. M., and Cernat, L. (2005) *Competition Provisions in Regional Trade Agreements: How to Assure Development Gains*, New York and Geneva: United Conference on Trade and Development.
- Bustos, P. (2011), "Trade liberalization, exports and technology upgrading: evidence on the impact of MERCOSUR on Argentinian firms", *American Economic Review* 101(1): 304-340.
- Cadot, O. and de Melo, J. (2007), "Why OECD Countries Should Reform Rules of Origin", *World Bank Research Observer* 23(1): 77-105.
- Calvo-Pardo, H., Freund, C. and Ornelas, E. (2009), "The ASEAN free trade agreement: impact on trade flows and external trade barriers", in Barro, R. and Lee, J. (eds), *Cost and Benefits of Regional Economic Integration in Asia*, [6] Oxford: Oxford University Press.
- Candau, F. and Sebastien, J. (2005), "What are EU trade preferences worth for Sub-Saharan Africa and Other Developing Countries?", Paris, CEPII Research Centre Working Paper No. 2005-19.
- Cantwell, J. (1994), "The relationship between international trade and international production", in Greenaway, D. and Winters, L.A. (eds), *Surveys in International Trade*, Oxford: Basil Blackwell: 303-322.
- Capling, A. (2008), "Preferential trade agreements as instruments of foreign policy: an Australia-Japan FTA and its implications for the Asia Pacific region", *The Pacific Review* 21(1): 27-44.
- Capling, A. and Low, P. (2010), *Governments. Non-State Actors and Trade-Policy Making*, Cambridge: Cambridge University Press.
- Carpenter, T. (2009), "A historical perspective on regionalism", in Baldwin, R. and Low, P. (eds), *Multilateralizing Regionalism*, New York: Cambridge University Press.
- Carpenter, T. and Lendle, A. (2010), "How Preferential is World Trade?", CTEI Working Paper No. 2010-32, Geneva: The Graduate Institute Centre for Trade and Economic Integration.
- Carrere, C. (2006), "Revisiting the effects of regional trade agreements on trade flows with proper specification of the gravity model", *European Economic Review* 50(2): 223-247.
- Carrere, C., de Melo, J. and Tumurchudur, B. (2008), "Disentangling market access effects for ASEAN members under an ASEAN-EU FTA", CEPR Discussion Papers No.6762.
- Carzaniga, A. (2008), "A warmer welcome? Access for natural persons under PTAs", in Marchetti, J. and Roy, M. (eds), *Opening Markets for Trade in Services; Countries and Sectors in Bilateral and WTO Negotiation*, Cambridge: Cambridge University Press: 475-502.
- Casella, A. (1996), "On market integration and the development of institutions. The case of international commercial arbitration", *European Economic Review* 40(1): 155-186.
- Casella, A. and Feinstein, J. S. (2002), "Public goods in trade on the formation of markets and jurisdictions", *International Economic Review* 43(2): 437-462.
- Chang, W. and Winters, L. A. (2002), "How regional blocs affect excluded countries: the price effects of MERCOSUR", *American Economic Review* 92(4): 889-904.
- Chase, K. (2006), "Multilateralism compromised: the mysterious origins of GATT Article XXIV", *World Trade Review* 5(1): 1-30.
- Chauffour, J. P. and Maur, J. C. (2011), *Preferential Trade Agreement Policies for Development: A Handbook*, Washington DC: World Bank.
- Chen, M. X. and Joshi, S. (2010), "Third-country effects in the formation of free trade networks", *Journal of International Economics* 82(2): 238-248.
- Chen, M. X. and Mattoo, A. (2008), "Regionalism in standards: good or bad for trade?", *Canadian Journal of Economics* 41(3): 838-863.
- Cheng, W. L. and Kierzkowski, H. (2001), *Global production and trade in East Asia*, Boston: Kluwer Academic Publisher.
- Cheng, W. L., Liu, M. C. and Yang, K. (2000), "A ricardian model with endogenous comparative advantage and endogenous trade policy regimes", *The Economic Society of Australia* 76(233): 172-182.
- Cheong, I. and Cho, J. (2009), "The impact of Free Trade Agreements (FTAs) on business in the Republic of Korea", Tokyo, Asian Development Bank (ADB) Institute Working Paper Series, No. 156.
- Clausing, K. A. (2001), "Trade creation and trade diversion in the Canada – United States Free Trade Agreement", *Canadian Journal of Economics* 34(3): 677-696.
- Collier, P. (2000), "Africa's comparative advantage", in Jalilian, H., Tribe, M., and Weiss, J. (eds), *Industrial Development and Policy in Africa – Issues of De-Industrialisation and Development Strategy*, Cheltenham, UK: Edward Elgar: 11-21.
- Collier, P. and Venables, A. (2008), "Trade and economic performance: Does Africa's fragmentation matter?", Annual Bank Conference on Development Economics, Cape Town, South Africa, June 9-11. Available at: <http://siteresources.worldbank.org/INTABCDESOUAFR2008/Resources/TonyVenables.pdf>. Accessed on 27 May 2011.

- Collins, S. and Rodrik, D. (2000), *Regulatory Protectionism, Developing Nations and a Two-Tier World Trading System*, Washington DC: The Brookings Institute.
- Cottier, T. (2009), "A two-tier approach to WTO decision-making", Swiss National Science Foundation, NCCR Trade Working Paper No.2009/06. Available at: http://phase1.nccr-trade.org/images/stories/publications/IP2/upload.Institutional%20reform%20WTO%20ed_1_0209.pdf. Access on 2 May 2011.
- Cox, D. J. (1994), "Some applied general equilibrium estimates of the impact of a North American free trade agreement on Canada", in Francois, J. and Shiells, C.R. (eds), *Modelling Trade Policy: Applied General Equilibrium Assessments of North American Free Trade*, New York: Cambridge University Press: 100-123.
- Cox, D. J. (1995), "An applied general equilibrium analysis of NAFTA's impact on Canada", in Kehoe, P. J. and Kehoe, T.J. (eds), *Modelling North American Economic Integration*, Boston: Kluwer Academic Publishers: 75-90.
- Cox, D. J. and Harris, R. G. (1992), "North American free trade and its implications for Canada: results from CGE model of North American trade", *The World Economy* 15(1): 31-44.
- Crawford, J. A. and Fiorentino, R. V. (2005), "The changing landscape of regional trade agreements", Geneva, World Trade Organization (WTO), Discussion Paper No.8.
- Croome, J. (1995), *Reshaping the World Trading System: A History of the Uruguay Round*, Geneva: World Trade Organization.
- Curtis, T. B. and Vastine, J. R. (1971), *The Kennedy Round and the Future of American Trade*, New York: Praeger Publishers.
- Cuyvers, L. and Pupphavesa, W. (1996), "From ASEAN to AFTA", Antwerp, Centre for Asean Studies (CAS) Discussion paper No 6.
- Damuri, Y. R. (2009), "How preferential are preferential trade agreements? Analysis of product exclusions in PTAs", Swiss National Centre of Competence in Research, Working Paper Number 2009/30.
- Dash, K. C. (1996), "The Political Economy of Regional Cooperation in South Asia", *Pacific Affairs* 69(2): 185-209.
- Davey, W. J. (2011), "A model article XXIV: are there realistic possibilities to improve it?", in Bagwell, K. and Mavroidis, P.C. (eds), *Preferential Trade Agreements*, Cambridge: Cambridge University Press.
- Davey, W. J. and Sapir, A. (2009), "The soft drinks case: the WTO and regional agreements", *World Trade Review* 8(1): 5-23.
- Dawar, K. and Holmes, P. (2010), "Competition policy", in Chauffour, J. P. and Maur, J.C. (eds), *Preferential Trade Agreement Policies for Development: A Handbook*, Washington DC: World Bank.
- De la Rocha, M. (2003), "The Cotonou Agreement and its implications for the regional trade agenda in Eastern and South Africa", Washington DC, World Bank Policy Research Working Paper No. 3090.
- de Melo, J. and Panagariya, A. (1993), *New Dimensions in Regional Integration*, Cambridge, UK: Cambridge University Press.
- Dean, J. N. and Wainio, J. (2006), "Quantifying the value of U.S. tariff preferences for developing countries", Washington DC, World Bank Policy Research Working Paper No. 3977.
- Dee, P. (2008), "Multinational corporations and Pacific regionalism", in Palacios, J. (ed), *Multinational Corporations and the Emerging Network Economy in Asia and the Pacific*, London and New York: Routledge: 232-266.
- Dee, P., Ochiai, R. and Okamoto, J. (2006), "Measuring the economic effects of the investment provisions of preferential trade agreements", Washington DC, Paper prepared for the Expert Meeting "Regional Rules in the Global Trading System", IDB-WTO Joint Research Program, 26-27 July 2006, Inter-American Development Bank, Washington DC.
- Dent, C. M. (2006), *New Free Trade Agreements in the Asia-Pacific*, New York: Palgrave Macmillan.
- Dickerson, O. M. (1951), *The Navigation Acts and the American Revolution*, Philadelphia: University of Pennsylvania Press.
- DiMascio, N. and Pauwelyn, J. (2008), "Nondiscrimination in trade and investment treaties: worlds apart or two sides of the same coin?", *American Journal of International Law* 102(1): 48-89.
- Dixit, A. and Norman, V. (1980), "Gains from trade without lump-sum compensation", *Journal of International Economics* 21(1): 111-122.
- Drahos, P. (2005), "The bilateral web of trade dispute settlement", Paper for the workshop on "WTO Dispute Settlement and Developing Countries: Use, Implications, Strategies, Reforms", University of Wisconsin at Madison, 20-21 May 2005. Available at: www.twnside.org.sg/. Accessed on 2 May 2011.
- Dür, A. (2010), *Protection for Exporters: Discrimination and Liberalization in Transatlantic Trade Relations, 1930-2010*, Ithaca: Cornell University Press.
- Echandi, R. (2006), "The DR-CFTA-US FTA negotiations in financial services: the Experience of Costa Rica", Washington DC, The World Bank. Background Paper for LCR Study.
- Economic Commission for Africa (2004) *Assessing Regional Integration in Africa*, Addis Ababa: Economic Commission for Africa.
- Egger, P. (2004), "Estimating regional trading bloc effects with panel data", *Review of World Economics (Weltwirtschaftliches Archiv)* 140(1): 151-166.
- Egger, P. and Larch, M. (2008), "Interdependent preferential trade agreement memberships: an empirical analysis", *Journal of International Economics* 76(2): 384-399.
- Elsig, M. (2009), "WTO decision-making: can we get a little help from the secretariat and the critical mass?", in Steger, D. (ed), *Redesigning the World Trade Organization for the Twenty-First Century*, Ottawa: Wilfrid Laurier University Press.
- Emch, A. (2006), "Services regionalism in the WTO: China's trade agreements with Hong Kong and Macao in the light of Article V(6) GATS", *Legal Issues of Economic Integration* 33(4): 351-378.
- Epifani, P. and Ganica, G. (2006), "On globalization and the growth of governments", mimeo, CREI and Universitat Pompeu Fabra.
- Estevadeordal, A. (2000) *Negotiating preferential market access: the case of the North American Free Trade Agreement*. *Journal of World Trade* 34(1), 141-166.
- Estevadeordal, A., Freund, C. and Ornelas, E. (2008), "Does regionalism affect trade liberalization towards non-members?", *The Quarterly Journal of Economics* 123(4): 1531-1575.
- Estevadeordal, A., Harris, J. and Suominen, K. (2009a), "Multilateralising preferential rules of origin around the world", Washington DC, Inter-American Development Bank, IDB Working Paper Series No. IDB-WP-137.

- Estevadeordal, A. and Suominen, K. (2004), "Rules of origin: a world map and trade effects", in Cadot, O., Estevadeordal, A., Suwa-Eisenmann, A., and Verdier, T. (eds), *The Origin of Goods: A Conceptual and Empirical Assessment of Rules of Origin in PTAs*, Washington DC: IADB and CEPR.
- Estevadeordal, A. and Suominen, K. (2008), "What are the Trade Effects of Rules of Origin", in Estevadeordal, A. and Suominen, K. (eds), *Gatekeepers of Global Commerce: Rules of Origin and International Economic Integration*, [5] Washington DC: Inter-American Development Bank: 161-219.
- Estevadeordal, A., Suominen, K., Harris, J., and Shearer, M. (2009) *Bridging Regional Trade Agreements in the Americas*, New York: Inter-American Development Bank.
- Ethier, W. (1998), "The new regionalism", *The Economic Journal* 108(3): 1149-1161.
- Evans, C. and Harrigan, J. (2005), "Distance, time, and specialization: learn retailing in general equilibrium", *American Economic Review* 95(1): 292-313.
- Evenett, S. (2009), "Aid for Trade and the "Missing Middle" of the World Trade Organization", *Global Governance* 15(3): 359-374.
- Facchini, G. and Testa, C. (2009), "Who is against a common market?", *Journal of the European Economic Association* 7(5): 1068-1100.
- Farrell, M. (2005), "Triumph of realism over idealism? Cooperation between the European Union and Africa", *Journal of European Integration* 27(3): 263-283.
- Fernandez, R. and Portes, J. (1998), "Returns to regionalism: an analysis of nontraditional gains from regional trade agreements", *World Bank Economic Review* 12(2): 197-220.
- Fink, C. and Jansen, M. (2009), "Services provisions in regional trade agreements: stumbling blocks or building blocks for multilateral liberalization?", in Baldwin, R. and Low, P. (eds), *Multilateralizing Regionalism: Challenges for the Global Trading System*, [6] Cambridge: Cambridge University Press: 221-261.
- Fink, C. and Molinuevo, M. (2008a), "East Asian free trade agreements in services: key architectural elements", *Journal of International Economic Law* 11(2): 263-311.
- Fink, C. and Molinuevo, M. (2008b), "East Asian preferential trade agreements in services: liberalization content and WTO rules", *World Trade Review* 7(4): 641-673.
- Fiorentino, R. V., Touqueboeuf, C. and Verdeja, L. (2007), "The Changing Landscape of Regional Trade Agreements: 2006 Update", Geneva, World Trade Organization (WTO) Discussion Paper No. 12.
- Francois, J. and Manchin, M. (2007), "Institutions, Infrastructure, and Trade", Rotterdam, Institute for International and Development Economics Discussion Paper No. 20070401.
- Frankel, J. A. (1997), "Regional trading blocs in the world trading system", Washington DC, Peterson Institute for International Economics, ISBN paper 0-88132-202-4.
- Frankel, J. A., Stein, E. and Wei, S.-J. (1995), "Trading blocs and the Americas: the natural, the unnatural and the super-natural", *Journal of Development Economics* 47(1): 61-95.
- Freund, C. (2000), "Multilateralism and the endogenous formation of preferential trade agreements", *Journal of International Economics* 52: 359-376.
- Freund, C. and Ornelas, E. (2010), "Regional trade agreements", *Annual Review of Economics* 2: 136-167.
- Fugazza, M. and Nicita, A. (2010), "The value of preferential market access", Lausanne, European Trade Study Group (ESTG), Twelfth Annual Conference. Available at: http://www.wto.org/english/res_e/reser_e/gtdw_e/wkshop10_e/nicita_e.pdf. Accessed on 27 May 2011.
- Fugazza, M. and Robert-Nicoud, F. (2010), "The "emulator effect" of the Uruguay Round on US regionalism", London, Centre for Economic Policy Research Discussion Paper No.7703.
- Fujita, M., Krugman, P. and Venables, A. J. (2001), *The Spatial Economy: Cities, Regions, and International Trade*, Cambridge MA: The MIT Press. MIT Press Books.
- Gasiorek, M., Augier, P. and Lai-Tong, C. (2009), "Multilateralising regionalism: lessons from the EU experience in relaxing rules of origin", in Baldwin, R. and Low, P. (eds), *Multilateralizing Regionalism: Challenges for the Global Trading System*, [4] Cambridge, UK: Cambridge University Press: 146-181.
- Gawande, K. and Krishna, P. (2003), "The political economy of trade policy: empirical approaches", in Choi, E. K. and Harrigan, J. (eds), *Handbook of International Trade*, New York: Basil Blackwell: 213-250.
- Ghosh, S. and Yamarik, S. (2004), "Does trade creation measure up? A reexamination of the effects of regional trading arrangements", *Economics Letters* 82(2): 213-219.
- Gowa, J. (1994), *Allies, Adversaries, International Trade*, Princeton: Princeton University Press.
- Gowa, J. and Mansfield, E. (1993), "Power politics and international trade", *American Political Science Review* 87(2): 408-420.
- Griswold, D. and Ikenson, D. (2004), "The case for CAFTA: consolidating Central America's freedom revolution", Washington DC, The Cato Institute, Trade Briefing Paper No. 21.
- Grossman, G. M. and Helpman, E. (1994), "Protection for sale", *American Economic Review* 84(4): 833-850.
- Grossman, G. M. and Helpman, E. (1995), "The politics of free-trade agreements", *American Economic Review* 85(4): 667-690.
- Gruber, L. (2000), *Ruling the World: Power Politics and the Rise of Supranatural Institutions*, Princeton: Princeton University Press.
- Grunwald, J. and Flamm, K. (1985), *The Global Factory: Foreign Assembly in International Trade*, Washington DC: Brookings Institution.
- Haas, E. (1958), *The Uniting of Europe*, Stanford: Stanford University Press.
- Haight, F. A. (1972), "Customs unions and free-trade areas under GATT: a reappraisal", *Journal of World Trade Law* 6(4): 391-404.
- Hakobyan, S. (2011), "Accounting for underutilization of trade preference programs: U.S. generalized system of preference", mimeo.
- Harris, J. and Suominen, K. (2009), "Business Costs of the Spaghetti Bowl in Latin America: Report on the Survey of Private Sector Use of PTAs in Chile, Colombia, Mexico and Panama", mimeo.
- Hartzenberg, T. (2011), "Regional integration in Africa", mimeo.
- Helpman, E. (1984), "A simple theory of trade with multinational corporations", *Journal of Political Economy* 92(3): 451-471.

- Helpman, E. (2006), "Trade, FDI, and the organization of Firms", *Journal of Economic Literature* 44(3): 589-630.
- Higgott, R. (2004), "After neoliberal globalization: the "securitization of US foreign economic policy in East Asia", *Critical Asian Studies* 36(3): 425-444.
- Hillman, J. (2009), "Conflicts between dispute settlement mechanisms in regional trade agreements and the WTO – what should the WTO do?", *Cornell International Law Journal* 42(2): 193-208.
- Hirastuko, K., Sato, H. and Isono, I. (2009), "Impacts of Free Trade Agreements on business activity in Asia: The case of Japan", Tokyo, Asian Development Bank (ADB) Institute Working Paper Series, No. 143.
- Hoda, A. (2001), *Tariff Negotiations and Renegotiations under the GATT and the WTO – Procedures and Practices*, Cambridge, UK: Cambridge University Press.
- Hoekman, B. and Nicita, A. (2008), "Trade policy, trade costs, and developing country trade", Washington DC, World Bank Policy Research Working Paper Series No.4797.
- Hoffmann, S. (1966), "Obstinate or obsolete? The fate of the nation state and the case of western europe", *Daedalus* 95(3): 862-915.
- Horlick, G. and Piérola, F. (2007), "WTO dispute settlement and dispute settlement in the "north-south" agreements of the Americas: considerations for choice of forum", *Journal of World Trade* 41(5): 885-908.
- Horn, H., Mavroidis, P. C. and Sapir, A. (2010), "Beyond the WTO? an anatomy of EU and US preferential trade agreements", *The World Economy* 33(11): 1565-1588.
- Houde, M. F., Kolse-Patil, A. and Miroudot, S. (2007), "The interaction between investment and services chapters in selected regional trade agreements", Paris, OECD Trade Policy Working Paper No. 55.
- Hsu, L. (2006), "Applicability of WTO law in regional trade agreements: identifying the links", in Bartels, L. and Ortino, F. (eds), *Regional Trade Agreements and the WTO Legal System*, Oxford: Oxford University Press: 525-552.
- Hudec, R. E. (1971), "GATT or GABB? The future design of the General Agreement on Tariffs and Trade", *The Yale Law Journal* 80(7): 1299-1386.
- Hudec, R. E. (1990), *The GATT Legal System and World Trade Diplomacy*, Salem, N.H.: Butterworth Legal Publishers.
- Hufbauer, G. and Schott, J. (2009), "Fitting Asia-Pacific agreements into the WTO system", in Baldwin, R. and Low, P. (eds), *Multilateralising Regionalism: Challenges for the Global Trading System*, Cambridge UK: Cambridge University Press: 554-635.
- Hummels, D. (1995), "Global income patterns: does geography play a role?", Chapter 2 of Phd Thesis, University of Michigan.
- Hummels, D., Ishii, J. and Yi, K. M. (2001), "The nature and growth of vertical specialization in international trade", *Journal of International Economic Law* 54(1): 75-96.
- Hwang, K. D. (2007), "The Historical Evolution of SADC (C) and Regionalism in Southern Africa", *International Area Review* 10(1).
- Irwin, D. A., Mavroidis, P. C. and Sykes, A. O. (2008), *The Genesis of the GATT*, Cambridge UK: Cambridge University Press.
- Jackson, J. (1969), *World Trade and the Law of GATT (A Legal Analysis of the General Agreement on Tariffs and Trade)*, New York: The Bobbs-Merrill Co. Inc.
- Jackson, J. (1997), *The World Trading System: Law and Policy of International Economic Relations*, Cambridge: Blackwell.
- Johnson, H. (1953), "Optimum tariffs and retaliation", *Review of Economic Studies* 21(2): 142-153.
- Jones, R., Kierzkowski, H. and Lurong, C. (2005), "What does evidence tell us about fragmentation and outsourcing?", Paper presented at the UNU-WIDER Jubilee Conference "Thinking Ahead: The Future of Development Economics", Geneva, 17-18 June 2005.
- Karacaivali, B. and Limão, N. (2008), "The clash of liberalizations: Preferential vs. multilateral trade liberalization in the European Union", *Journal of International Economics* 74(2): 299-327.
- Katada, S. N. and Solis, M. (2008), *Cross Regional Trade Agreements*, Berlin: Springer-Verlag.
- Kawai, M. and Wignaraja, G. (2009), "The Asian "noodle bowl": is it serious for business?", Working Papers ecosocialsciences.com, Working Paper No. 1936.
- Kawai, M. and Wignaraja, G. (2011), *Asia's Free Trade Agreements: How is Business Responding?*, Cheltenham (UK), Edward Elgar.
- Keck, A. and Lendle, A. (2011), "Determinants of preference utilization in the EU and US", mimeo.
- Kemp, M. C. and Wan, H. Jr. (1976), "An elementary proposition concerning the formation of customs unions", *Journal of International Economics* 6(1): 95-97.
- Kimura, F., Takahashi, Y. and Hayakawa, K. (2007), "Fragmentation and parts and components trade: comparison between East Asia and Europe", *The North American Journal of Economics and Finance* 18(1): 23-40.
- Kotschwar, B. (2009), "Mapping investment provisions in regional trade agreements: towards an international investment regime?", in Estevadeordal, A., Suominen, K., and Teh, R. (eds), *Regional Rules in the Global Trading System*, [7] Cambridge: Cambridge University Press: 365-417.
- Krishna, K. and Krueger, A. (1995), "Implementing free trade agreements: rules of origin and hidden protection", in Deardorff, A., Levinsohn, J., and Stern, R. (eds), *New Directions in Trade Theory*, Ann Arbor: University of Michigan Press: 149-179.
- Krishna, P. (1998), "Regionalism and multilateralism: a political economy approach", *The Quarterly Journal of Economics* 113(1): 227-250.
- Krishna, P. (2003), "Are regional trading partners "Natural"?", *Journal of Political Economy* 111(1): 202-231.
- Krueger, A. (1997), "Trade policy and economic development: how we learn", *American Economic Review* 87(1): 1-22.
- Krugman, P. (1991), "The move to free trade zones", paper presented at the symposium sponsored by the Federal Reserve Bank of Kansas City, Policy Implications of Trade and Currency Zones. Available at <http://www.kansascityfed.org/publicat/sympos/1991/S91krugm.pdf>. Accessed on 31 March 2011.
- Kuijper, P. J. (2010), "Conflicting rules and clashing courts: the case of multilateral environmental agreements, free trade agreements and the WTO", Geneva International Centre for Trade and Sustainable Development, Issue Paper No.10.
- Kwak, K. and Marceau, G. (2006), "Overlaps and conflicts of jurisdiction between the World Trade Organization and regional trade agreements", in Bartels, L. and Ortino, F. (eds), *Regional Trade Agreements and the WTO Legal System*, Oxford: Oxford University Press: 465-524.

- Ladreit de Lacharrière, G. (1987), "The legal framework for international trade", in Dunkel, A. (ed), *Trade Policies for a Better Future: The "Leutwiler Report", the GATT and the Uruguay Round*, Dordrecht: Martinus Nijhoff Publishers.
- Lampe, M. (2009), "Effects of Bilateralism and the MFN Clause on International Trade: Evidence for the Cobden-Chevalier Network, 1860-1875", *The Journal of Economic History* 69(04): 1012-1040.
- Lamy, P. (2010), "Regional integration in Africa: ambitions and vicissitudes", Address to the conference organized by Institut Aspen France at Annecy on 28 August 2010. Available at: http://www.notre-europe.eu/uploads/tx_publication/PolicyPaper_43_Lamy_02.pdf. Accessed on 27 May 2011.
- Lawrence, R. Z. (1996), *Regionalism, Multilateralism and Deeper Integration*, Washington DC: Brookings Institution.
- Lawrence, R. Z. (2006), "Rulemaking amidst growing diversity: a club-of-clubs approach to WTO reform and new issue selection", *Journal of International Economic Law* 9(4): 823-835.
- Leamer, E. (1997), "Access to western markets and eastern effort", in Zecchinini, S. (ed), *Lessons from the Economic Transition, Central and Eastern Europe in the 1990s*, Dordrecht: Kluwer Academic: 503-526.
- Lee, J. W. and Shin, K. (2006), "Does regionalism lead to more global trade integration in East Asia?", *The North American Journal of Economics and Finance* 17(3): 283-301.
- Lesser, C. (2007), "Do bilateral and regional approaches for reducing technical barriers to trade converge towards the multilateral trading system?", Paris, OECD Trade Policy Working Paper No. 58.
- Lester, S. and Mercurio, B. (2009), *Bilateral and Regional Trade Agreements: Case Studies*, Cambridge UK: Cambridge University Press.
- Leutwiler, F. e. al. (1985), "Trade policies for a better future: the Leutwiler Report", in Dunkel, A. (ed), *Trade Policies for a Better Future: The "Leutwiler Report", the GATT and the Uruguay Round*, Dordrecht: Martinus Nijhoff Publishers.
- Levy, P. I. (1997), "A political-economic analysis of free-trade agreements", *American Economic Review* 87(4): 506-519.
- Levy, P. I. and Srinivasan, T. N. (1996), "Regionalism and the (dis)advantage of dispute-settlement access", *American Economic Review* 86(2): 93-98.
- Lileeva, A. and Trefler, D. (2010), "Improved access to foreign markets raises plant-level productivity...for some plants", *The Quarterly Journal of Economics* 125(3): 1051-1099.
- Limão, N. (2006), "Preferential trade agreements as stumbling blocks for multilateral trade liberalization: evidence for the United States", *The American Economic Review* 96(3): 896-914.
- Limao, N. (2007), "Are preferential trade agreements with non-trade objectives a stumbling block for multilateral liberalization?", *Review of Economic Studies* 74(3): 821-855.
- Lipson, C. (1982), "The transformation of trade: the sources and effects of regime change", *International Organization* 36(2): 417-455.
- Liu, X. (2010), "Testing Conflicting Political Economy Theories: Full-fledged versus Partial Scope Regional Trade Agreements", *Southern Economic Journal* 77(1): 78-103.
- Lockwood, B. (2008), "Voting, lobbying and the decentralization theorem", *Economics and Politics* 20(3): 416-431.
- Low, P. (2008), "Regionalism: challenges for the WTO", Paper presented at the Asian Development Bank Institute/Graduate Institute of Geneva conference on Multilateralizing Asian Regionalism, Tokyo, 18-19 September. Available at: http://www.adbi.org/conf-seminar-papers/2008/10/07/2729_low_regionality.wto.challenges/. Accessed on 2 May 2011.
- Low, P. (2011), "WTO Decision-Making for the Future", Geneva, World Trade Organization (WTO) Working Paper No. 2011-05.
- Low, P., Piermartini, R. and Richtering, J. (2009), "Multilateral solutions to the erosion of nonreciprocal preferences in nonagricultural market access", in Hoekman, B., Martin, W., and Primo Braga, C.A. (eds), *Trade Preference Erosion: Measurement and Policy Response*, Washington DC: Worldbank, Palgrave Macmillan: 219-267.
- Magee, C. (2008), "New measures of trade creation and trade diversion", *Journal of International Economics* 75(2): 340-362.
- Maggi, G. and Rodriguez-Clare, A. (1998), "The value of trade agreements in the presence of political pressures", *The Journal of Political Economy* 106(3): 574-601.
- Manchin, M. (2005), "Preference utilization and tariff reduction in European Union imports from african, caribbean, and pacific countries", Washington DC World Bank Policy Research Working Paper Series No. 3688.
- Manchin, M. and Pelkmans-Balaong, A. O. (2007), "Clothes without an emperor: analysis of the preferential Tariffs in ASEAN", Development Working Papers Milan, Centro Studi Luca d'Agliano, University of Milano Development Working Paper No. 3688.
- Manger, M. (2008), "International Investment Agreements and Services Markets: locking in market failure?", *World Development* 36(11): 2456-2469.
- Manger, M. (2009), *Investing in Protection: the Politics of Preferential Trade Agreements between North and South*, Cambridge UK: Cambridge University Press.
- Mansfield, E., Milner, H. and Pevehouse, J. C. (2007), "Vetoing co-operation: the impact of veto players on preferential trading arrangements", *British Journal of Political Science* 37(3): 403-432.
- Mansfield, E., Milner, H. and Rosendorff, P. (2002), "Why democracies cooperate more: electoral control and international trade agreements", *International Organization* 56(3): 477-513.
- Mansfield, E. and Reinhardt, E. (2003), "Multilateral determinants of regionalism: the effects of GATT/WTO on the formation of preferential trading arrangements", *International Organization* 57(4): 829-862.
- Mansfield, E. D. and Milner, H. (2010), "Regime type, veto points, and preferential trade agreements", *Stanford Journal of International Law* 46(2): 219-242.
- Mansfield, E. D., Milner, H. V. and Pevehouse, J. C. (2008), "Democracy, veto players and the depth of regional integration", *The World Economy* 31(1): 67-96.
- Mansfield, E. D., Pevehouse, J. C. and Bearce, D. H. (2000), "Preferential Trading Arrangements and military disputes", *Security Studies* 9(1-2): 92-118.
- Marceau, G. (2007), "The adoption of the "Best Practices" for regional and free trade agreements in APEC: a road towards more WTO-consistent regional trade agreements?", in Taniguchi, Y., Yanovich, A., and Bohanes, J. (eds), *The WTO in the Twenty-First Century*, [22] Cambridge: Cambridge University Press: 409-422.

- Marceau, G. (2009), "News from Geneva on PTAs and WTO-plus, WTO-more, and WTO-minus", Washington DC, Annual ASIL Conference <http://www.jstor.org/stable/10.5305/procannmeetasil.103.1.0124> Accessed on 29 March 2011.
- Marceau, G. and Reiman, C. (2001), "When are regional trade agreements compatible with the WTO?", *Legal Issues of Economic Integration* 28(3): 297.
- Marceau, G. and Wyatt, J. (2010), "Dispute Settlement Regimes Intermingled: Regional Trade Agreements and the WTO", *Journal of International Dispute Settlement* 1(1): 67-95.
- Marchetti, J. and Roy, M. (2008a), *Opening Markets for Trade in Services: Countries and Sectors in Bilateral and WTO Negotiations*, Cambridge: Cambridge University Press.
- Marchetti, J. and Roy, M. (2008b), "Services liberalization in the WTO and in PTAs", in Marchetti, J. and Roy, M. (eds), *Opening Markets for Trade in Services: Countries and Sectors in Bilateral and WTO Negotiations*, Cambridge: Cambridge University Press: 61-112.
- Markusen, J. R. (1984), "Multinational, multi-plant economies, and the gains from trade", *Journal of International Economics* 16(3-4): 205-226.
- Markusen, J. R. (1998), "Multinational firms, location and trade", *The World Economy* 21(6): 733-756.
- Mathis, J. H. (2002), *Regional Trade Agreements in the GATT/WTO: Article XXIV and the International Trade Requirement*, The Hague: TMC Asper Instituut.
- Matsuyama, K. (1990), "Perfect equilibria in a trade liberalization game", *American Economic Review* 80(3): 480-492.
- Mattli, W. (1999), *The Logic of Regional Integration: Europe and Beyond*, Cambridge: Cambridge University Press.
- Mattoo, A. and Fink, C. (2002), "Regional agreements and trade in services", Washington DC, World Bank Policy Research Working Paper No. 2852.
- Mattoo, A. and Fink, C. (2004), "Regional agreements and trade in services: policy issues", *Journal of Economic Integration* 19(4): 742-779.
- Mattoo, A. and Sauvé, P. (2010), "The preferential liberalization of services trade", Swiss National Centre of Competence in Research (NCCR) Working Paper No 2010/13. Available at: http://www.wti.org/fileadmin/user_upload/nccr-trade.ch/wp2/2.5/SauveNCCR%20Working%20Paper%202010%2013.pdf. Accessed on 27 May 2011.
- Mattoo, A. and Wunsch-Vincent, S. (2004), "Pre-empting protectionism in services: the GATS and outsourcing", *Journal of International Economic Law* 7(4): 765-800.
- Mavroidis, P. C. (2010), "WTO and PTAs: a preference for multilateralism?", *Journal of World Trade* 44(5): 1145-1154.
- Mayer, T. and Zignago, S. (2005), "Market access in global and regional trade", Paris, CEPII Research Center, CEPII Working Paper 2005-02.
- McCord, G., Sachs, J. D. and Wing, T. W. (2005), "Understanding African poverty: beyond the Washington Consensus to the Millennium Development Goals approach", *Africa in the World Economy – The National, Regional and International Challenges*, The Hague: FONDAD.
- McLaren, J. (2002), "A theory of insidious regionalism", *The Quarterly Journal of Economics* 117(2): 571-608.
- Meunier, S. and Nicolaïdis, K. (2006), "The European Union as a conflicted trade power", *Journal of European Public Policy* 13(6): 906-925.
- Miroudot, S., Sauvage, P. and Sudreau, M. (2010), "Multilateralising regionalism: how preferential are services commitments in regional trade agreements?", Paris, OECD Trade Policy Working Papers No.106.
- Mitrany, D. (1943), *A Working Peace System*, London: RIIA.
- Monge-Ariño, F. (2011), "Costa Rica: trade opening, FDI attraction and global production sharing", Geneva, World Trade Organization (WTO) Working Paper No. 2011-09.
- Moravcsik, A. (1998), *The Choice for the Europe: social purpose and the state power from Messina to Maastricht*, Ithaca: Cornell University Press.
- Oates, W. (1972), *Fiscal Federalism*, New York: Harcourt Brace.
- Oates, W. (1999), "An essay on fiscal federalism", *Journal of Economic Literature* 31(3): 1120-1149.
- Odell, J. and Eichengreen, B. (1998), "The United States, the ITO, and the WTO: exit options, agent slack, and presidential leadership", in Krueger, A. O. (ed), *The WTO as an International Organization*, [6] Chicago: University of Chicago Press.
- Orefice, G. and Rocha, N. (2011), "Deep integration and production networks: an empirical analysis", mimeo.
- Ornelas, E. (2005a), "Endogenous free trade agreements and the multilateral trading system", *Journal of International Economics* 67(2): 471-497.
- Ornelas, E. (2005b), "Rent destruction and the political viability of free trade agreements", *The Quarterly Journal of Economics* 120(4): 1475-1506.
- Ornelas, E. (2005c), "Trade creating free trade areas and the undermining of multilateralism", *European Economic Review* 49(7): 1717-1735.
- Ornelas, E. (2008), "Feasible multilateralism and the effects of regionalism", *Journal of International Economics* 74(1): 202-224.
- Ossa, R. (2010), "A "new trade" theory of GATT/WTO negotiation", NBER Working Papers Cambridge MA, National Bureau of Economic Research (NBER) Working Paper No. 16388.
- Padoa-Schioppa, T. (2001), *Europa, forza gentile*, Il Mulino. Collana "Contemporanea".
- Pahre, R. (2008), *Politics and Trade Cooperation in the Nineteenth Century: the "Agreeable Customs" of 1815-1914*, Cambridge UK: Cambridge University Press.
- Panagariya, A. and Findlay, R. (1996), "A political-economy analysis of free trade areas and customs unions", in Feenstra, R., Grossman, G.M., and Irwin, D. (eds), *The Political Economy of Trade Policy: Papers in Honor of Jagdish Bhagwati*, Cambridge MA: MIT Press: 265-288.
- Pauwelyn, J. (2004), "The puzzle of WTO safeguards and regional trade agreements", *Journal of International Economic Law* 7(1): 109-142.
- Pauwelyn, J. (2009), "Multilateralizing regionalism: what about an MFN clause in preferential trade agreements?", Proceedings of the 103rd Annual Meeting, ASIL, March 25-28, 2009, Washington, DC.
- Perroni, C. and Whalley, J. (2000), "The new regionalism: trade liberalization or insurance?", *Canadian Journal of Economics* 33(1): 1-24.
- Piermartini, R. and Budetta, M. (2009), "A mapping of regional rules on technical barriers to trade", in Estevadeordal, A., Suominen, K., and Teh, R. (eds), *Regional Rules in the Global Trading System*, [5] Cambridge: Cambridge University Press: 250-315.

- Plummer, M. (2006), "Toward win-win regionalism in Asia: issues and challenges in forming efficient trade agreements", Manila, Asian Development Bank (ADB) Working Papers series on regional economic integration No. 5.
- Pomfret, R. (2001), *The Economics of Regional Trading Arrangements*, Oxford: Oxford University Press.
- Pomfret, R. (2006), "Regional Trade Agreements", in Fratianni, M. and Rugman, A. (eds), *Regional Economic Integration*, [3] Amsterdam: Elsevier.
- Pomfret, R. and Sourdin, P. (2009), "Have Asian trade agreements reduced trade costs?", *Journal of Asian Economics* 20(3): 255-268.
- Pomfret, R. and Sourdin, P. (2010), "Trade facilitation and the measurement of trade costs", *Journal of International Commerce, Economics and Policy* 1(1): 145-163.
- Porges, A. (2010), "Dispute settlement in preferential trade agreements and its use – a survey of the field", in Maur, J. C. and Chauffour, J.P. (eds), *Preferential Trade Agreement Policies for Development: A Handbook*, Washington DC: Worldbank.
- Prusa, T. J. (2005), "Antidumping: a growing problem in international trade", *The World Economy* 28(5): 683-700.
- Prusa, T. J. and Teh, R. (2010), "Protection reduction and diversion: PTAs and the incidence of antidumping disputes", NBER Working Papers Cambridge MA. National Bureau of Economic Research (NBER) Working Paper No. 16276.
- Putnam, R. (1988), "Diplomacy and domestic politics: the logic of two-level games", *International Organization* 42(3): 427-460.
- Ramirez Robles, E. (2006), "Political & Quasi-Adjudicative dispute settlement models in European free trade agreements. Is the quasi-adjudicative a trend or it is just an other model?", Geneva, World Trade Organization (WTO) Working Paper No. 2006-09.
- Rauch, J. E. and Trindade, V. (2002), "Ethnic chinese networks in international trade", *The Review of Economics and Statistics* 84(1): 116-130.
- Ravenhill, J. (2008), "Regionalism", in Ravenhill, J. (ed), *Global Political Economy*, [6] Oxford: Oxford University Press: 172-210.
- Ravenhill, J. (2009), "East Asian regionalism: much ado about nothing?", *Review of International Studies* 35(Special Issue S1): 215-235.
- Ravenhill, J. (2010), "The "new East Asian regionalism": a political domino effect", *Review of International Political Economy* 17(2): 178-208.
- Richardson, M. (1993), "Endogenous protection and trade diversion", *Journal of International Economics* 34(3-4): 309-324.
- Richardson, M. (1994), "Why a free trade area? the tariff also rises", *Economics and Politics* 6(1): 79-96.
- Rodrik, D. (2000), "How far will international economic integration go?", *Journal of Economic Perspectives* 14(1): 177-186.
- Roessler, F. (2000), "The institutional balance between the judicial and political organs of the WTO", in Bronckers, M. and Quick, R. (eds), *New Directions in International Economic Law – Essays in Honour of John H. Jackson*, The Hague: Kluwer International Law: 200-338.
- Rollo, J. and Winters, L. A. (2000), "Subsidiarity and governance challenges for the WTO: environmental and labour standards", *The World Economy* 23(4): 561-576.
- Romalis, J. (2007), "NAFTA's and CUSFTA's impact on international trade", *The Review of Economics and Statistics* 89(3): 416-435.
- Rosen, H. (2004), "Free trade agreements as foreign policy tools: the US-Israel and the US-Jordan FTAs", in Schott, J. (ed), *Free Trade Agreements: US Strategies and Priorities*, Washington: Institute for International Economics: 51-78.
- Roy, M. (2010), "Endowments, power, and democracy: political economy of multilateral commitments on trade in services", Geneva, World Trade Organization (WTO) Working Paper No. 2010-11.
- Roy, M., Marchetti, J. and Lim, A. H. (2007), "Services liberalization in the new generation of preferential trade agreements: how much further than the GATS?", *World Trade Review* 6(02 (July)): 155-192.
- Roy, M., Marchetti, J. and Lim, A. H. (2008), "The race towards preferential trade agreements in services: how much market access is really achieved?", in Panizzon, M., Pohl, N., and Sauvé, P. (eds), *GATS and the Regulation of International Trade in Services*, Cambridge: Cambridge University Press: 77-110.
- Ruta, M. (2005), "Economic theories of political (dis)integration", *Journal of Economic Surveys* 19(1): 1-21.
- Ruta, M. (2010), "Lobbying and (de)centralization", *Public Choice* 144(1): 275-291.
- Saggi, K. and Yildiz, H. M. (2009), "Bilateralism, pure multilateralism and the quest for global free trade", Dallas, Southern Methodist University, Working Paper. Available at: <http://www.isid.ac.in/~planning/ConferenceDec07/Papers/KamalSaggi.pdf>. Accessed on 2 May 2011.
- Sandholtz, W. and Zysman, J. (1989), "1992: recasting the European bargain", *World Politics* 42(4): 95-128.
- Sauvé, P. and Beviglia-Zampetti, A. (2000), "Subsidiarity perspectives on the new trade agenda", *Journal of International Economic Law* 3(1): 83-114.
- Sauvé, P. and Ward, N. (2009), "The EC CARIFORUM economic partnership agreement: assessing the outcome on services and investment", Brussels, European Centre for International Political Economy (ECIPE) Working Paper Series.
- Schatz, H. J. and Venables, A. J. (2000), "The geography of international investment", Washington DC, World Bank Policy Research Working Paper No. 2338.
- Schiff, M. (1999), "Will the real "natural trading partner" please stand up?", Washington DC, World Bank Working Paper No. 2161.
- Schiff, M. and Winters, L. A. (1998), "Regional integration as diplomacy", *World Bank Economic Review* 12(2): 271-295.
- Shafaeddin, M. (1998), "How did developed countries industrialize? The history of trade and industrial policy: the cases of Great Britain and the USA", UNCTAD Discussion Papers United Nations Conference on Trade and Development (UNCTAD) Geneva, Discussion Paper No. 139.
- Shaffer, G. and Pollack, M. (2010), "Hard vs. soft law: alternatives, complements and antagonists in international governance", *Minnesota Law Review* 94(3): 706-799.
- Shany, Y. (2005), *The Competing Jurisdictions of International Courts and Tribunals*, Oxford: Oxford University Press.
- Silva, J. M. C. S. and Tenreyro, S. (2006), "The Log of Gravity", *The Review of Economics and Statistics* 88(4): 641-658.
- Silva, V. (2004) *Cooperation on Competition Policy in Latin American and Caribbean Bilateral Trade Agreements*, Santiago: Chile: United Nations Economic Commission for Latin America and the Caribbean.
- Sobarzo, H. (1992), "A general equilibrium analysis of the gains from trade for the Mexican economy of a North American free trade agreement", *The World Economy* 15: 83-100.

- Sobarzo, H. (1994), "The gains from trade for the Mexican Economy of a North American free trade agreement – An applied general equilibrium assessment", in Francois, J. and Shiells, C.R. (eds), *Modelling General Equilibrium Assessments of North American Free Trade*, New York: Cambridge University Press.
- Sobarzo, H. (1995), "A general equilibrium analysis of the gains from NAFTA for the Mexican economy", in Kehoe, P. J. and Kehoe, T.J. (eds), *Modelling North American Economic Integration*, New York: Cambridge University Press: 599-653.
- Solano, O. and Sennekamp, A. (2006), "Competition provisions in regional trade agreements", Paris, OECD Trade Policy Working Paper No.31.
- Soloaga, I. and Winters, L. A. (2001), "Regionalism in the nineties: what effect on trade?", *The North American Journal of Economics and Finance* 12(1): 1-29.
- Staiger, R. W. and Tabellini, G. (1987), "Discretionary trade policy and excessive protection", *American Economic Review* 77(5): 823-837.
- Staiger, R. W. and Tabellini, G. (1999), "Do GATT rules help governments make domestic commitments?", *Economics and Politics* 11(2): 109-144.
- Stephenson, S. and Delourme, T. (2010), "Labour mobility, trade and political economy models", Jerusalem, Hebrew University, Paper presented at the Conference on "The Political Economy of Liberalizing Trade in Services".
- Sutherland Report (2004) *The Future of the WTO: Addressing Institutional Changes in the New Millennium*, Geneva: WTO.
- Tang, M. K. and Wei, S. J. (2008), "The value of making commitments externally: evidence from WTO accessions", NBER Working Papers Cambridge MA. National Bureau of Economic Research (NBER) Working Paper No. 14582.
- Te Velde, D. and Bezemer, D. (2006), "Regional integration and foreign direct investment in developing countries", *Transnational Corporations* 15(2): 41-70.
- Teh, R. (2009), "Competition provisions in regional trade agreements", in Estevadeordal, A., Suominen, K., and Teh, R. (eds), *Regional Rules in the Global Trading System*, [8] Cambridge: Cambridge University Press: 418-491.
- Teh, R., Prusa, T. J. and Budetta, M. (2009), "Trade remedy provisions in regional trade agreements", in Estevadeordal, A., Suominen, K., and Teh, R. (eds), *Regional Rules in the Global Trading System*, [4] Cambridge: Cambridge University Press: 166-249.
- The Warwick Commission (2007) *The Multilateral Trade Regime: Which Way Forward?*, Coventry: The University of Warwick.
- Trebilcock M.J. and Howse R. (1995), *The Regulation of International Trade*, London: Routledge.
- Trefler, D. (2004), "The long and short of the Canada-U.S. free trade agreement", *American Economic Review* 94(4): 870-895.
- Tumbarello, P. (2007), "Are regional trade agreements in Asia stumbling or building blocs? Some implications for the Mekong-3 countries", Washington DC, IMF Working Paper No. 07-53.
- United Nations Conference on Trade and Development (UNCTAD) (2010) *World Investment Report 2010*, New York and Geneva: United Nations.
- United States Trade Representative (USTR) (2010) *Press Release: United States Requests Dispute Settlement Panel in Tuna Dolphin NAFTA Choice of Forum Dispute*. Washington, DC
- van Damme, I. (2006), "What role is there for regional international law in the interpretation of WTO agreements?", in Bartels, L. and Ortino, F. (eds), *Regional Trade Agreements and the WTO Legal System*, Oxford: Oxford University Press: 553-567.
- VanGrasstek, C. and Sauvé, P. (2006), "The consistency of WTO rules: the single undertaking be squared with variable geometry?", *Journal of International Economic Law* 9(4): 837-864.
- Venables, A. J. (1987), "Trade and trade policy with differentiated products: a Chamberlinian-Ricardian model", *Economic Journal* 97(387):700-717.
- Venables, A. J. (2001), "Geography and international inequalities: the impact of new technologies", *Journal of Industry, Competition and Trade* 1(2): 135-159.
- Viner, J. (1950), *The Customs Union Issue*, New York: Carnegie Endowment for International Peace.
- Whalley, J. (2008), "Recent regional agreements: why so many, why so much variance in form, why coming so fast, and where are they headed?", *The World Economy* 31(4): 517-532.
- White, G. W. (2005), "Free trade as a strategic instrument in the war on terror? The 2004 US-Maroccan free trade agreement", *Middle East Journal* 59(4): 597-616.
- Wignaraja, G., Lazaro, D. and De Guzman, G. (2010a), "FTAs and Philippine business: evidence from transport, food and electronics firms", Tokyo. Asian Development Bank (ADB) Institute, Working Paper No. 185.
- Wignaraja, G., Olfindo, R., Pupphavesa, W., Panpiemras, J. and Ongkittikul, S. (2010b), "How do FTAs affect exporting firms in Thailand?", East Asian Bureau of Economic Research, Trade Working Papers, No. 2010.4.
- William, G. (2000), "Greater East Asia Co-Prosperity Sphere", Available at <http://wgordon.web.wesleyan.edu/papers/coprospr.htm>. Accessed on 8 April 2011.
- Winters, L. A. (1993), "Expanding EC membership and association accords: recent experience and future prospects", in Anderson, K. and Blackhurst, R. (eds), *Regional Integration and the Global Trading System*, Hearfordshire: Harvester Wheatsheaf: 104-125.
- Winters, L. A. (2011), "Preferential trading agreements: friend or foe?", in Bagwell, K. and Mavroidis, P.C. (eds), *Preferential Trade Agreements*, [1] Cambridge: Cambridge University Press.
- World Bank (2000) *Regional Integration Agreements*, Washington DC: World Bank.
- World Bank (2005a) *Global Economic Prospects 2005: Trade, Regionalism and Development*, Washington DC: World Bank.
- World Bank (2005b) *Global Economic Prospects: Regional Trade and Preferential Trading Agreements*, Washington DC: World Bank.
- World Bank. (2006), "The Impact of Intel in Costa Rica", Investing in Development. Washington, DC: World Bank.
- World Trade Organization (WTO) (1995) *Regionalism and the World Trading System*, Geneva: WTO.
- World Trade Organization (WTO) (1997) *Mexico Trade Policy Review, Government Report*, Geneva: WTO.
- World Trade Organization (WTO) (2000) *Japan Trade Policy Review, Government Report*, Geneva: WTO.
- World Trade Organization (WTO) (2002) *Japan Trade Policy Review, Government Report*, Geneva: WTO.

- World Trade Organization (WTO) (2003a) *Chile Trade Policy Report, Government Report*, Geneva: WTO.
- World Trade Organization (WTO) (2003b) *World Trade Report 2003 Trade and Development*, Geneva: WTO.
- World Trade Organization (WTO) (2004) *EC Trade Policy Report, Government Report*, Geneva: WTO.
- World Trade Organization (WTO) (2006) *US Trade Policy Report, Government Report*, Geneva: WTO.
- World Trade Organization (WTO) (2007a) *Pakistan Trade Policy Review, Government Report*, Geneva: WTO.
- World Trade Organization (WTO) (2007b) *World Trade Report 2007 – Six decades of multilateral trade cooperation: What have we learnt?*, Geneva: WTO.
- World Trade Organization (WTO) (2008a) *US Trade Policy Review, Government Report*, Geneva: WTO.
- World Trade Organization (WTO) (2008b) *World Trade Report 2008 Trade in a Globalizing World*, Geneva: WTO.
- World Trade Organization (WTO) (2009a) *Chile Trade Policy Review, Government Report*, Geneva: WTO.
- World Trade Organization (WTO) (2009b) *EC Trade Policy Review, Government Report*, Geneva: WTO.
- World Trade Organization (WTO) (2010) *International Trade Statistics*, Geneva: WTO.
- Yeats, A. J. (1998), "Just how big is global production sharing?", Washington D.C., World Bank Policy Research Working Paper No. 1871.
- Yeats, A. (2001), "Just how big is global production sharing", in Kierzkowski, H. and Arndt, S. (eds), *Fragmentation: New production Patterns in the World Economy*, Oxford: Oxford University Press: 108-143.
- Yi, K. M. (2003), "Can vertical specialization explain the growth of world trade?", *Journal of Political Economy* 111(1): 52-102.
- Yi, S. S. (1996), "Endogenous formation of customs unions under imperfect competition: open regionalism is good", *Journal of International Economics* 41(1-2): 153-177.

Technical notes

| Composition of regions and other economic groupings | | | | |
|--|-------------------------|--------------------------|---------------------------|-----------------------------------|
| Regions | | | | |
| North America | | | | |
| Bermuda | Canada* | Mexico* | United States of America* | |
| Other territories in the region not elsewhere specified (n.e.s.) | | | | |
| South and Central America and the Caribbean | | | | |
| Antigua and Barbuda* | Chile* | El Salvador* | Netherlands Antilles | Saint Vincent and the Grenadines* |
| Argentina* | Colombia* | Grenada* | Nicaragua* | Suriname* |
| Bahamas** | Costa Rica* | Guatemala* | Panama* | Trinidad and Tobago* |
| Barbados* | Cuba* | Guyana* | Paraguay* | Uruguay* |
| Belize* | Dominica* | Haiti* | Peru* | Bolivarian Rep. of Venezuela* |
| Bolivia, Plurinational State of* | Dominican Republic* | Honduras* | Saint Kitts and Nevis* | |
| Brazil* | Ecuador* | Jamaica* | Saint Lucia* | |
| Other territories in the region n.e.s. | | | | |
| Europe | | | | |
| Andorra** | Denmark* | Iceland* | Montenegro** | Slovenia* |
| Austria* | Estonia* | Ireland* | Netherlands* | Spain* |
| Belgium* | Finland* | Italy* | Norway* | Sweden* |
| Bosnia and Herzegovina** | France* | Latvia* | Poland* | Switzerland* |
| Bulgaria* | FYR Macedonia* | Liechtenstein* | Portugal* | Turkey* |
| Croatia* | Germany* | Lithuania* | Romania* | United Kingdom* |
| Cyprus* | Greece* | Luxembourg* | Serbia** | |
| Czech Republic* | Hungary* | Malta* | Slovak Republic* | |
| Other territories in the region n.e.s. | | | | |
| Commonwealth of Independent States (CIS) ^a | | | | |
| Armenia* | Georgia ^a | Moldova* | Turkmenistan | |
| Azerbaijan** | Kazakhstan** | Russian Federation** | Ukraine* | |
| Belarus** | Kyrgyz Republic* | Tajikistan** | Uzbekistan** | |
| Other territories in the region n.e.s. | | | | |
| Africa | | | | |
| Algeria** | Congo* | Guinea* | Morocco* | South Africa* |
| Angola* | Côte d'Ivoire* | Guinea-Bissau* | Mozambique* | Sudan** |
| Benin* | Dem. Rep. of the Congo* | Kenya* | Namibia* | Swaziland* |
| Botswana* | Djibouti* | Lesotho* | Niger* | Tanzania* |
| Burkina Faso* | Egypt* | Liberia** | Nigeria* | Togo* |
| Burundi* | Equatorial Guinea** | Libyan Arab Jamahiriya** | Rwanda* | Tunisia* |
| Cameroon* | Eritrea | Madagascar* | São Tomé and Príncipe** | Uganda* |
| Cape Verde* | Ethiopia** | Malawi* | Senegal* | Zambia* |
| Central African Republic* | Gabon* | Mali* | Seychelles** | Zimbabwe* |
| Chad* | Gambia* | Mauritania* | Sierra Leone* | |
| Comoros** | Ghana* | Mauritius* | Somalia | |
| Other territories in the region n.e.s. | | | | |
| Middle East | | | | |
| Bahrain* | Israel* | Lebanese Republic** | Saudi Arabia, Kingdom of* | Yemen** |
| Iran, Islamic Rep. of** | Jordan* | Oman* | Syrian Arab Republic | |
| Iraq** | Kuwait* | Qatar* | United Arab Emirates* | |
| Other territories in the region n.e.s. | | | | |
| Asia | | | | |
| Afghanistan** | Hong Kong, China* | Malaysia* | Papua New Guinea* | Timor Leste |
| Australia* | India* | Maldives* | Philippines* | Tonga* |
| Bangladesh* | Indonesia* | Mongolia* | Samoa** | Tuvalu |

* WTO members

** Observer governments

^a Georgia is not a member of the Commonwealth of Independent States but is included in this group for reasons of geography and similarities in economic structure.

| Composition of regions and other economic groupings | | | | |
|---|--------------------------|------------------------|----------------------------------|-----------------------------|
| Regions | | | | |
| Bhutan** | Japan* | Myanmar* | Singapore* | Vanuatu** |
| Brunei Darussalam* | Kiribati | Nepal* | Solomon Islands* | Viet Nam* |
| Cambodia* | Korea, Republic of* | New Zealand* | Sri Lanka* | |
| China* | Lao People's Dem. Rep.** | Pakistan* | Taipei, Chinese* | |
| Fiji* | Macao, China* | Palau | Thailand* | |
| Other territories in the region n.e.s. | | | | |
| Other Groups | | | | |
| ACP (African, Caribbean and Pacific countries) | | | | |
| Angola | Cuba | Haiti | Niger | South Africa |
| Antigua and Barbuda | Dem. Rep. of the Congo | Jamaica | Nigeria | Sudan |
| Bahamas | Djibouti | Kenya | Niue | Suriname |
| Barbados | Dominica | Kiribati | Palau | Swaziland |
| Belize | Dominican Republic | Lesotho | Papua New Guinea | Timor Leste |
| Benin | Equatorial Guinea | Liberia | Rwanda | Togo |
| Botswana | Eritrea | Madagascar | Saint Kitts and Nevis | Tonga |
| Burkina Faso | Ethiopia | Malawi | Saint Lucia | Trinidad and Tobago |
| Burundi | Fiji | Mali | Saint Vincent and the Grenadines | Tuvalu |
| Cameroon | Gabon | Marshall Islands | Samoa | Uganda |
| Central African Republic | Gambia | Mauritania | São Tomé and Príncipe | United Republic of Tanzania |
| Chad | Ghana | Mauritius | Senegal | Vanuatu |
| Comoros | Grenada | Micronesia | Seychelles | Zambia |
| Congo | Guinea | Mozambique | Sierra Leone | Zimbabwe |
| Cook Islands | Guinea-Bissau | Namibia | Solomon Islands | |
| Côte d'Ivoire | Guyana | Nauru | Somalia | |
| Africa | | | | |
| <i>North Africa</i> | | | | |
| Algeria | Egypt | Libyan Arab Jamahiriya | Morocco | Tunisia |
| <i>Sub-Saharan Africa</i> | | | | |
| <i>Western Africa</i> | | | | |
| Benin | Gambia | Guinea-Bissau | Mauritania | Senegal |
| Burkina Faso | Ghana | Liberia | Niger | Sierra Leone |
| Cape Verde | Guinea | Mali | Nigeria | Togo |
| Côte d'Ivoire | | | | |
| <i>Central Africa</i> | | | | |
| Burundi | Central African Republic | Congo | Equatorial Guinea | Rwanda |
| Cameroon | Chad | Dem. Rep. of the Congo | Gabon | São Tomé and Príncipe |
| <i>Eastern Africa</i> | | | | |
| Comoros | Ethiopia | Mauritius | Somalia | United Republic of Tanzania |
| Djibouti | Kenya | Seychelles | Sudan | Uganda |
| Eritrea | Madagascar | | | |
| <i>Southern Africa</i> | | | | |
| Angola | Lesotho | Mozambique | South Africa | Zambia |
| Botswana | Malawi | Namibia | Swaziland | Zimbabwe |
| Territories in Africa not elsewhere specified | | | | |
| Asia | | | | |
| <i>East Asia (including Oceania)</i> | | | | |
| Australia | Indonesia | Mongolia | Samoa | Tuvalu |
| Brunei Darussalam | Japan | Myanmar | Singapore | Vanuatu |
| Cambodia | Kiribati | New Zealand | Solomon Islands | Viet Nam |
| China | Lao People's Dem. Rep. | Papua New Guinea | Taipei, Chinese | |
| Fiji | Macao, China | Philippines | Thailand | |
| Hong Kong, China | Malaysia | Korea, Republic of | Tonga | |
| <i>West Asia</i> | | | | |
| Afghanistan | Bhutan | Maldives | Pakistan | Sri Lanka |
| Bangladesh | India | Nepal | | |
| Other countries and territories in Asia and the Pacific not elsewhere specified | | | | |

| Composition of regions and other economic groupings | | | | |
|---|--------------------------|------------------------|-----------------------|----------------------------------|
| Other Groups | | | | |
| LDCs (Least-developed countries) | | | | |
| Afghanistan | Comoros | Kiribati | Myanmar | Sudan |
| Angola | Congo, Dem. Rep. of | Lao People's Dem. Rep. | Nepal | Timor Leste |
| Bangladesh | Djibouti | Lesotho | Niger | Togo |
| Benin | Equatorial Guinea | Liberia | Rwanda | Tuvalu |
| Bhutan | Eritrea | Madagascar | Samoa | Uganda |
| Burkina Faso | Ethiopia | Malawi | São Tomé and Príncipe | United Republic of Tanzania |
| Burundi | Gambia | Maldives | Senegal | Vanuatu |
| Cambodia | Guinea | Mali | Sierra Leone | Yemen |
| Central African Republic | Guinea-Bissau | Mauritania | Solomon Islands | Zambia |
| Chad | Haiti | Mozambique | Somalia | |
| Six East Asian traders | | | | |
| Hong Kong, China | Korea, Republic of | Singapore | Taipei, Chinese | Thailand |
| Malaysia | | | | |
| Regional Integration Agreements | | | | |
| Andean Community (CAN) | | | | |
| Bolivia, Plurinational State of | Colombia | Ecuador | Peru | |
| ASEAN (Association of South East Asian Nations) / AFTA (ASEAN Free Trade Area) | | | | |
| Brunei Darussalam | Indonesia | Malaysia | Philippines | Thailand |
| Cambodia | Lao People's Dem. Rep. | Myanmar | Singapore | Viet Nam |
| CACM (Central American Common market) | | | | |
| Costa Rica | El Salvador | Guatemala | Honduras | Nicaragua |
| CARICOM (Caribbean Community and Common Market) | | | | |
| Antigua and Barbuda | Belize | Guyana | Montserrat | Saint Vincent and the Grenadines |
| Bahamas | Dominica | Haiti | Saint Kitts and Nevis | Suriname |
| Barbados | Grenada | Jamaica | Saint Lucia | Trinidad and Tobago |
| CEMAC (Economic and Monetary Community of Central Africa) | | | | |
| Cameroon | Chad | Congo | Equatorial Guinea | Gabon |
| Central African Republic | | | | |
| COMESA (Common Market for Eastern and Southern Africa) | | | | |
| Burundi | Egypt | Libyan Arab Jamahiriya | Rwanda | Uganda |
| Comoros | Eritrea | Madagascar | Seychelles | Zambia |
| Congo, Dem. Rep. of | Ethiopia | Malawi | Sudan | Zimbabwe |
| Djibouti | Kenya | Mauritius | Swaziland | |
| ECCAS (Economic Community of Central African States) | | | | |
| Angola | Central African Republic | Dem. Rep. of the Congo | Gabon | São Tomé and Príncipe |
| Burundi | Chad | Equatorial Guinea | Rwanda | |
| Cameroon | Congo | | | |
| ECOWAS (Economic Community of West African States) | | | | |
| Benin | Côte d'Ivoire | Guinea | Mali | Senegal |
| Burkina Faso | Gambia | Guinea-Bissau | Niger | Sierra Leone |
| Cape Verde | Ghana | Liberia | Nigeria | Togo |
| EFTA (European Free Trade Association) | | | | |
| Iceland | Liechtenstein | Norway | Switzerland | |
| European Union (27) | | | | |
| Austria | Estonia | Ireland | Netherlands | Spain |
| Belgium | Finland | Italy | Poland | Sweden |
| Bulgaria | France | Latvia | Portugal | United Kingdom |
| Cyprus | Germany | Lithuania | Romania | |
| Czech Republic | Greece | Luxembourg | Slovak Republic | |
| Denmark | Hungary | Malta | Slovenia | |

| Composition of regions and other economic groupings | | | | |
|--|---------------|---------------|-----------------------------|----------------------|
| Regional Integration Agreements | | | | |
| GCC (Gulf Cooperation Council) | | | | |
| Bahrain, Kingdom of | Oman | Qatar | Saudi Arabia, Kingdom of | United Arab Emirates |
| Kuwait | | | | |
| MERCOSUR (Southern Common Market) | | | | |
| Argentina | Brazil | Paraguay | Uruguay | |
| NAFTA (North American Free Trade Agreement) | | | | |
| Canada | Mexico | United States | | |
| SAPTA (South Asian Preferential Trade Arrangement) | | | | |
| Bangladesh | India | Nepal | Pakistan | Sri Lanka |
| Bhutan | Maldives | | | |
| SADC (Southern African Development Community) | | | | |
| Angola | Lesotho | Mauritius | South Africa | Zambia |
| Botswana | Madagascar | Mozambique | Swaziland | Zimbabwe |
| Congo, Dem. Rep. of | Malawi | Namibia | United Republic of Tanzania | |
| WAEMU (West African Economic and Monetary Union) | | | | |
| Benin | Côte d'Ivoire | Mali | Senegal | Togo |
| Burkina Faso | Guinea-Bissau | Niger | | |

WTO members are frequently referred to as "countries", although some members are not countries in the usual sense of the word but are officially "customs territories". The definition of geographical and other groupings in this report does not imply an expression of opinion by the Secretariat concerning the status of any country or territory, the delimitation of its frontiers, nor the rights and obligations of any WTO member in respect of WTO agreements. The colours, boundaries, denominations and classifications in the maps of the publication do not imply, on the part of the WTO, any judgement on the legal or other status of any territory, or any endorsement or acceptance of any boundary.

Throughout this report, South and Central America and the Caribbean is referred to as South and Central America. The Bolivarian Republic of Venezuela; Hong Kong Special Administrative Region of China; the Republic of Korea; and the Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu are referenced as Bolivarian Rep. of Venezuela; Hong Kong, China; Korea, Republic of; and Taipei, Chinese respectively.

Abbreviations and symbols

| | |
|----------|--|
| ACP | African, Caribbean and Pacific Group of States |
| ADB | Asian Development Bank |
| AFAS | ASEAN Framework Agreement on Services |
| AFTA | ASEAN Free Trade Area |
| AGOA | African Growth and Opportunity Act |
| ALADI | Latin American Integration Association |
| ALALC | Latin American Association of Free Commerce |
| AMU | Arab Maghreb Union |
| APEC | Asia Pacific Economic Cooperation |
| APTA | Asia Pacific Trade Agreement |
| ASEAN | Association of Southeast Asian Nations |
| ATC | Agreement on Textiles and Clothing |
| AVE | <i>ad valorem</i> equivalent |
| BEC | broad economic categories |
| BITs | bilateral investment treaties |
| BOP | balance of payment |
| CACM | Central American Common Market |
| CAFTA | Central American Free Trade Area |
| CAN | ANDEAN Community |
| CARICOM | Caribbean Community and Common Market |
| CBTPA | Caribbean Basin Trade Partnership Act |
| CBERA | Caribbean Basin Economic Recovery Act |
| CEFTA | Central European Free Trade Area |
| CEPA | Closer Economic Partnership Arrangements |
| CER | Closer Economic Relations |
| CGE | computable general equilibrium |
| CIS | Commonwealth of Independent States |
| COMECON | Council for Mutual Economic Assistance |
| COMESA | Common Market for Eastern and Southern Africa |
| CRTA | Committee on Regional Trade Agreements |
| CTC | change in tariff classification |
| CUs | customs unions |
| CUSFTA | Canada-United States Free Trade Agreement |
| DDA | Doha Development Agenda |
| DR-CAFTA | Dominican Republic-Central American Free Trade Agreement |
| DSU | Dispute Settlement Understanding |
| EAC | East African Community |
| ECA | Economic Commission for Africa |
| ECCAS | Economic Community of Central African States |
| ECO | Economic Co-operation Organization |
| ECOWAS | Economic Community of West African States |
| ECSC | European Coal and Steel Community |
| EEA | European Economic Area |
| EEC | European Economic Community |
| EFTA | European Free Trade Agreement |
| EIA | Economic Integration Agreement |
| EPA | Economic Partnership Agreement |
| EU | European Union |
| FDI | foreign direct investment |
| f.o.b. | free on board |
| FTAA | Free Trade Area of the Americas |
| FTAs | free trade agreements |
| GATS | General Agreement on Trade in Services |
| GATT | General Agreement on Tariffs and Trade |
| GCC | Gulf Cooperation Council |
| GDP | gross domestic product |
| GPA | Government Procurement Agreement |
| GSP | Generalized System of Preferences |
| GSTP | Global System of Trade Preferences |
| HS | Harmonized System |
| IDB | Inter-American Development Bank |
| IMF | International Monetary Fund |
| IPRs | intellectual property rights |
| ITA | Information Technology Agreement |
| ITC | International Trade Centre |
| ITO | International Trade Organization |
| JETRO | Japan External Trade Organization |

| | |
|----------|---|
| LAIA | Latin American Integration Agreement |
| LDCs | least-developed countries |
| LPA | Lagos Plan of Action |
| MERCOSUR | Southern Common Market |
| MFN | most-favoured nation |
| MNC | multi-national corporation |
| MTS | multilateral trading system |
| NAFTA | North American Free Trade Agreement |
| NT | national treatment |
| OAU | Organization of African Unity |
| PAFTA | Pan-Arab Free Trade Area |
| PECS | Pan-European Cumulation System |
| PM | preference margin |
| PSA | partial scope agreement |
| PTAs | preferential trade agreements |
| PUR | preference utilization rate |
| RCA | revealed comparative advantage |
| REC | regional economic community |
| RIA | regional integration arrangement |
| RoOs | rules of origin |
| RoW | rest of the world |
| RPM | relative preference margin |
| RTAA | Reciprocal Trade Agreement Act |
| SACU | Southern Africa Customs Union |
| SADC | Southern African Development Community |
| SAFTA | South Asian Free Trade Area |
| SAPP | Southern African Power Pool |
| SITC | Standard International Trade Classification |
| SMEs | small and medium-sized enterprises |
| SPS | sanitary and phytosanitary |
| TBTs | technical barriers to trade |
| TPP | Trans-Pacific Strategic Economic Partnership |
| TRIMs | trade-related investment measures |
| TRIPS | trade-related aspects of intellectual property rights |
| UNCTAD | United Nations Conference on Trade and Development |
| US | United States |
| VC | value content |
| VCLT | Vienna Convention on the Law of the Treaties |
| WITS | World Integrated Trade System |

The following symbols are used in this publication:

| | |
|------|---|
| ... | not available |
| 0 | figure is zero or became zero due to rounding |
| - | not applicable |
| US\$ | United States dollars |
| € | euro |
| £ | UK pound |

List of figures, tables, boxes and maps

I World trade in 2010

Figures

| | | |
|----------|---|----|
| Figure 1 | Growth in volume of world merchandise trade and GDP, 2000-10 | 20 |
| Figure 2 | Volume of world merchandise trade, 1990-2010 | 21 |
| Figure 3 | Ratio of world exports of goods and commercial services to GDP, 1980-2010 | 25 |
| Figure 4 | World exports of manufactured goods by product, 2007-10 | 27 |
| Figure 5 | Nominal dollar exchange rates, January 2000 - February 2011 | 29 |

Tables

| | | |
|---------|--|----|
| Table 1 | GDP and merchandise trade by region, 2007-10 | 22 |
| Table 2 | Export prices of selected primary products, 2000-10 | 23 |
| Table 3 | World exports of merchandise and commercial services, 2005-10 | 24 |
| Table 4 | Exports of automotive products by major exporting regions, 2008-10 | 27 |

Appendix figure

| | | |
|-------------|--|----|
| App. Fig. 1 | Monthly merchandise exports and imports of selected economies, January 2006 - January 2011 | 37 |
|-------------|--|----|

Appendix tables

| | | |
|--------------|--|----|
| App. Table 1 | World merchandise trade by region and selected economies, 2010 | 31 |
| App. Table 2 | World exports of commercial services by region and selected country, 2010 | 32 |
| App. Table 3 | Merchandise trade: leading exporters and importers, 2010 | 33 |
| App. Table 4 | Merchandise trade: leading exporters and importers (excluding intra-EU (27) trade), 2010 | 34 |
| App. Table 5 | Leading exporters and importers in world trade in commercial services, 2010 | 35 |
| App. Table 6 | Leading exporters and importers of commercial services excluding intra-EU (27) trade, 2010 | 36 |

II The WTO and Preferential Trade Agreements: From co-existence to coherence

B. Historical background and current trends

Figures

| | | |
|-------------|--|----|
| Figure B.1 | Cumulative number of PTAs in force, 1950-2010, notified and non-notified PTAs, by country group | 55 |
| Figure B.1a | Average number of PTAs in force per country, 1950-2010, notified and non-notified PTAs, by country group | 55 |
| Figure B1b | Average number of PTA participants per WTO member, 1950-2010, notified PTAs | 56 |
| Figure B.2 | Cumulative number of intra- and cross-regional PTAs in force, 1950-2010, notified and non-notified PTAs | 58 |
| Figure B.3 | Cumulative number of bilateral PTAs and types of plurilateral PTAs in force, 1950-2010, notified and non-notified PTAs | 60 |
| Figure B.4 | Type of PTAs in force, 2010, notified and non-notified PTAs | 62 |
| Figure B.5 | Cumulative number of PTAs, 1950-2010, notified and non-notified PTAs, by scope of coverage | 62 |
| Figure B.6 | Share of intra-PTA trade in world merchandise exports, 1990-2008 | 64 |
| Figure B.7 | Shares of selected PTAs in total world exports between PTA members, 2008 | 68 |
| Figure B.8 | Intra-regional trade shares in world by manufacturing sector, 1990-2009 | 71 |
| Figure B.9 | Shares of intra-regional trade in total imports by region, 1965-2005 | 72 |
| Figure B.10 | Preferential trade by importer, 2008, shares by preference margins and MFN rates | 74 |

| | | |
|-------------|---|----|
| Figure B.11 | Preferential trade by exporter (30 largest exporters), 2008, shares by preference margins and MFN rates | 75 |
| Figure B.12 | Preferential trade by exporter (25 exporters with highest trade-weighted preferential margin), 2008, preference margins | 76 |
| Figure B.13 | Preference utilization rate (PUR) of US preferential regimes (sorted by eligible exports), 2008 | 80 |
| Figure B.14 | Preference utilization rate (PUR) of EU preferential regimes (sorted by eligible exports), 2008 | 81 |

Tables

| | | |
|------------|--|----|
| Table B.1 | Total and average number of PTAs in force, 2010, notified and non-notified PTAs, by region, regional type and country group | 57 |
| Table B.2 | “Network” of PTAs in force, 2010, notified and non-notified PTAs, by region | 59 |
| Table B.3 | Intra- and cross-regional PTAs in force, 2010, notified and non-notified PTAs, by region and time period | 59 |
| Table B.4 | Number of bilateral PTAs and types of plurilateral PTAs in force, 2010, notified and non-notified PTAs, by country group and regional type | 61 |
| Table B.5 | Number of goods and services PTAs in force, 2010, notified and non-notified PTAs, by country group, level of participation and regional type | 63 |
| Table B.6 | World merchandise trade between PTAs, 1990 | 65 |
| Table B.7 | World merchandise trade between PTAs, 2008 | 66 |
| Table B.8 | Preferential trade by agreement/type of regime, 2008, selected regimes | 77 |
| Table B.9 | Preferential trade by country group, 2008 | 78 |
| Table B.10 | Preferential trade by product group, 2008 | 79 |
| Table B.11 | Preference utilization rate (PUR) by product group, 2008 | 82 |
| Table B.12 | Firms' utilization of PTA preferences | 83 |

Box

| | | |
|---------|--|----|
| Box B.1 | Rules of origin in PTAs: transaction costs and the spaghetti-bowl phenomenon | 84 |
|---------|--|----|

Maps

| | | |
|---------|---|----|
| Map B.1 | Membership in PTAs in force, 2010, notified and non-notified PTAs, by country | 58 |
| Map B.2 | Intra-regional and extra-regional merchandise exports of WTO regions, 1990-2009 | 69 |

C. Causes and effects of PTAs: is it all about preferences?

Figures

| | | |
|------------|--|-----|
| Figure C.1 | The PTA diagram's trade pattern | 100 |
| Figure C.2 | Home PTA with Partner 1: trade creation | 101 |
| Figure C.3 | Home PTA with Partner 2: trade diversion | 102 |
| Figure C.4 | Effects of PTAs in services | 104 |

Table

| | | |
|-----------|---------------------------------|-----|
| Table C.1 | Shallow versus deep integration | 110 |
|-----------|---------------------------------|-----|

Boxes

| | | |
|---------|---|-----|
| Box C.1 | PTA case studies | 98 |
| Box C.2 | Trade creation and trade diversion effects | 101 |
| Box C.3 | The effects of PTAs in services | 103 |
| Box C.4 | Lessons from the EU experience in relaxing rules of origin (RoOs) | 109 |
| Box C.5 | Determinants of the regionalization of production networks | 112 |

Appendix figures

| | | |
|---------------|--|-----|
| App. Fig. C.1 | Open trade and MFN tariffs | 118 |
| App. Fig. C.2 | PTA price and quantity effects | 118 |
| App. Fig. C.3 | Welfare effects of preferential liberalization | 119 |

Appendix table

| | | |
|---------------|--|-----|
| App Table C.1 | Empirical findings on trade creation and trade diversion | 120 |
|---------------|--|-----|

D. Anatomy of preferential trade agreements**Figures**

| | | |
|-------------|--|-----|
| Figure D.1 | MFN tariff trends in developing countries by region | 124 |
| Figure D.2 | World MFN applied tariff trends | 125 |
| Figure D.3 | Preferential reductions of tariff rates above 15 per cent, 2007 | 125 |
| Figure D.4 | Relative preference margins by region, 2000 and 2007 | 128 |
| Figure D.5 | Covered and enforceable WTO+ provisions over time | 131 |
| Figure D.6 | Covered and enforceable WTO-X provisions over time | 131 |
| Figure D.7 | Number of agreements covering WTO+ provisions | 132 |
| Figure D.8 | Number of agreements covering WTO-X provisions | 132 |
| Figure D.9 | Number of WTO+ and WTO-X provisions | 133 |
| Figure D.10 | Sector coverage in PTAs in comparison with GATS commitments and DDA offers | 134 |
| Figure D.11 | Proportion of services subsectors subject to new or improved commitments in PTAs, compared to GATS (by member) | 135 |
| Figure D.12 | GATS+ commitments in PTAs by sector, modes 1 and 3 | 137 |
| Figure D.13 | Proportion of PTAs with selected provisions in investment chapter | 139 |
| Figure D.14 | Total number of provisions in investment chapter over time | 139 |
| Figure D.15 | Percentage of PTAs by TBT provision | 141 |
| Figure D.16 | Average degree of TBT integration by level of development | 141 |
| Figure D.17 | Sector-specific competition provisions in PTAs | 143 |
| Figure D.18 | Competition disciplines in PTAs over time | 144 |
| Figure D.19 | Share of parts and components in intra-regional trade | 147 |
| Figure D.20 | FDI flows to ASEAN-5 and as share of FDI to developing countries, 1970-92 | 148 |
| Figure D.21 | Costa Rica's share of US FDI flows to Central America, 1982-2008 | 150 |

Tables

| | | |
|-----------|---|-----|
| Table D.1 | Share of tariff lines and trade by level of competition-adjusted preference margin, 2000 and 2007 | 127 |
| Table D.2 | WTO+ and WTO-X policy areas in PTAs | 129 |
| Table D.3 | Patterns of TBT integration across regions (percentage of PTAs by provision and region) | 142 |
| Table D.4 | ASEAN-5 exports, 1967-92 | 147 |
| Table D.5 | Costa Rica's preferential trade agreements | 149 |
| Table D.6 | Costa Rica's two-way trade with the United States, 1995-2008 | 150 |
| Table D.7 | Costa Rica's two-way trade with China, 1995-2008 | 150 |

Boxes

| | | |
|---------|---|-----|
| Box D.1 | Measurement of the value of preferences | 126 |
| Box D.2 | Legal enforceability | 129 |

Appendix figure

| | | |
|---------------|--|-----|
| App. Fig. D.1 | Variations in the level of commitments offered in different PTAs: Australia, Chile, Republic of Korea, Singapore and United States | 163 |
|---------------|--|-----|

Appendix tables

| | | |
|----------------|--|-----|
| App. Table D.1 | List of PTAs and results of HMS mapping | 157 |
| App. Table D.2 | Acronyms and members | 160 |
| App. Table D.3 | List of services agreements in the database used for this report | 161 |
| App. Table D.4 | The effects of deep integration on production networks | 162 |
| App. Table D.5 | The effects of trade in parts and components on deep integration | 162 |

E. The multilateral trading system and PTAs

Figures

| | | |
|------------|---|-----|
| Figure E.1 | PTAs in force at the time of the request for consultations, 1995-2010 | 176 |
| Figure E.2 | Intra-PTA anti-dumping initiations | 180 |

Tables

| | | |
|-----------|---|-----|
| Table E.1 | Frequency of requests for consultations, by development level and existence of PTAs in force between the parties, 1995-2010 | 176 |
| Table E.2 | Requests for consultations, by year and subsequent procedures, 1995-2010 | 177 |
| Table E.3 | WTO Agreements cited in the requests for consultations, 1995-2010 | 178 |
| Table E.4 | Anti-dumping initiations by PTA status | 180 |

Boxes

| | | |
|---------|---|-----|
| Box E.1 | Investment provisions in international agreements: is there a potential for third-party discrimination? | 170 |
| Box E.2 | Making rules of origin more compatible with the multilateral trading system | 172 |
| Box E.3 | Methodology | 179 |

Statistical appendix

| | | |
|----------------|---|-----|
| App. Table 1 | Merchandise exports and imports of plurilateral preferential trade agreements, 2008 | 199 |
| App. Table 2.A | Merchandise exports of ASEAN countries, 1992-2009 | 201 |
| App. Table 2.B | Merchandise imports of ASEAN countries, 1992-2009 | 203 |
| App. Table 3.A | Merchandise exports of CIS countries, 2000-2009 | 205 |
| App. Table 3.B | Merchandise imports of CIS countries, 2000-2009 | 207 |
| App. Table 4.A | Merchandise exports of European Union (15) countries, 1990-2009 | 209 |
| App. Table 4.B | Merchandise imports of European Union (15) countries, 1990-2009 | 211 |
| App. Table 5.A | Merchandise exports of MERCOSUR countries, 1990-2009 | 213 |
| App. Table 5.B | Merchandise imports of MERCOSUR countries, 1990-2009 | 214 |
| App. Table 6.A | Merchandise exports of NAFTA countries, 1990-2009 | 215 |
| App. Table 6.B | Merchandise imports of NAFTA countries, 1990-2009 | 216 |
| App. Table 7 | World merchandise exports by product and region, 1990-2009 | 217 |
| App. Table 8 | Preferential trade by importer, preferential margin and MFN rate | 224 |
| App. Table 9 | Preferential trade by importer, duties and average preference margin | 225 |
| App. Table 10 | Preferential trade by exporter, 30 largest exporters | 226 |
| App. Table 11 | Shares of preferential trade and duty reductions from reciprocal preference schemes by importer | 227 |

WTO members

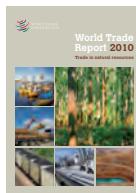
(As of end May 2011)

| | | |
|---|----------------------------------|-----------------------------------|
| Albania | Hungary | Spain |
| Angola | Iceland | Sri Lanka |
| Antigua and Barbuda | India | Suriname |
| Argentina | Indonesia | Swaziland |
| Armenia | Ireland | Sweden |
| Australia | Israel | Switzerland |
| Austria | Italy | Chinese Taipei |
| Bahrain, Kingdom of | Jamaica | Tanzania |
| Bangladesh | Japan | Thailand |
| Barbados | Jordan | Togo |
| Belgium | Kenya | Tonga |
| Belize | Korea, Republic of | Trinidad and Tobago |
| Benin | Kuwait | Tunisia |
| Bolivia, Plurinational State of | Kyrgyz Republic | Turkey |
| Botswana | Latvia | Uganda |
| Brazil | Lesotho | Ukraine |
| Brunei Darussalam | Liechtenstein | United Arab Emirates |
| Bulgaria | Lithuania | United Kingdom |
| Burkina Faso | Luxembourg | United States of America |
| Burundi | Macao, China | Uruguay |
| Cambodia | Madagascar | Venezuela, Bolivarian Republic of |
| Cameroon | Malawi | Viet Nam |
| Canada | Malaysia | Zambia |
| Cape Verde | Maldives | Zimbabwe |
| Central African Republic | Mali | |
| Chad | Malta | |
| Chile | Mauritania | |
| China | Mauritius | |
| Colombia | Mexico | |
| Congo | Moldova | |
| Costa Rica | Mongolia | |
| Côte d'Ivoire | Morocco | |
| Croatia | Mozambique | |
| Cuba | Myanmar | |
| Cyprus | Namibia | |
| Czech Republic | Nepal | |
| Democratic Republic of the Congo | Netherlands | |
| Denmark | New Zealand | |
| Djibouti | Nicaragua | |
| Dominica | Niger | |
| Dominican Republic | Nigeria | |
| Ecuador | Norway | |
| Egypt | Oman | |
| El Salvador | Pakistan | |
| Estonia | Panama | |
| European Union | Papua New Guinea | |
| Fiji | Paraguay | |
| Finland | Peru | |
| Former Yugoslav Republic of Macedonia (FYROM) | Philippines | |
| France | Poland | |
| Gabon | Portugal | |
| The Gambia | Qatar | |
| Georgia | Romania | |
| Germany | Rwanda | |
| Ghana | Saint Kitts and Nevis | |
| Greece | Saint Lucia | |
| Grenada | Saint Vincent and the Grenadines | |
| Guatemala | Saudi Arabia, Kingdom of | |
| Guinea | Senegal | |
| Guinea Bissau | Sierra Leone | |
| Guyana | Singapore | |
| Haiti | Slovak Republic | |
| Honduras | Slovenia | |
| Hong Kong, China | Solomon Islands | |
| | South Africa | |

Previous World Trade Reports

Trade in natural resources

2010



The World Trade Report 2010 focuses on trade in natural resources, such as fuels, forestry, mining and fisheries. The Report examines the characteristics of trade in natural resources, the policy choices available to governments and the role of international cooperation, particularly of the WTO, in the proper management of trade in this sector

Trade Policy Commitments and Contingency Measures

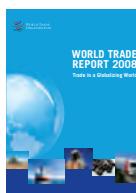
2009



The 2009 Report examines the range and role of contingency measures available in trade agreements. One of the Report's main objectives is to analyse whether WTO provisions provide a balance between supplying governments with the necessary flexibility to face difficult economic situations and adequately defining these in a way that limits their use for protectionist purposes.

Trade in a Globalizing World

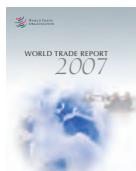
2008



The 2008 Report provides a reminder of what we know about the gains from international trade and highlights the challenges arising from higher levels of integration. It addresses the question of what constitutes globalization, what drives it, what benefits it brings, what challenges it poses and what role trade plays in this world of ever-growing inter-dependency.

Sixty Years of the Multilateral Trading System : Achievements and Challenges

2007



On 1 January 2008 the multilateral trading system celebrated its 60th anniversary. The World Trade Report 2007 celebrates this landmark anniversary with an in-depth look at the General Agreement on Tariffs and Trade (GATT) and its successor the World Trade Organization — their origins, achievements, the challenges they have faced and what the future holds.

Exploring the Links between Subsidies, Trade and the WTO

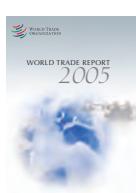
2006



The World Trade Report 2006 focuses on how subsidies are defined, what economic theory can tell us about subsidies, why governments use subsidies, the most prominent sectors in which subsidies are applied and the role of the WTO Agreement in regulating subsidies in international trade. The Report also provides brief analytical commentaries on certain topical trade issues.

Trade, Standards and the WTO

2005



The World Trade Report 2005 seeks to shed light on the various functions and consequences of standards, focusing on the economics of standards in international trade, the institutional setting for standard-setting and conformity assessment, and the role of WTO agreements in reconciling the legitimate policy uses of standards with an open, non-discriminatory trading system.

Coherence

2004



The World Trade Report 2004 focuses on the notion of coherence in the analysis of interdependent policies: the interaction between trade and macroeconomic policy, the role of infrastructure in trade and economic development, domestic market structures, governance and institutions, and the role of international cooperation in promoting policy coherence.

Trade and Development

2003



The World Trade Report 2003 focuses on development. It explains the origin of this issue and offers a framework within which to address the question of the relationship between trade and development, thereby contributing to more informed discussion.

This report is also available in
French and Spanish.

To order, please contact:
WTO Publications
World Trade Organization
154, rue de Lausanne
CH-1211 Geneva 21
Tel: (41 22) 739 52 08
Fax: (41 22) 739 54 58
Email: publications@wto.org
Online WTO bookshop:
<http://onlinebookshop.wto.org>

ISBN 978-92-870-3764-0
Printed in Switzerland
Cover designed by triptik
Report designed by Services Concept

© World Trade Organization 2011

Image credits (cover):
Cover top left – Brian Jackson – iStockphoto
Cover left centre – Hande Guleryuz Yuce – iStockphoto
Cover bottom left – geopaul – iStockphoto
Cover bottom centre – Christian Lagereek – iStockphoto
Cover bottom right – René Mansi – iStockphoto
Cover image top right – Heather Sapey-Pertin

World Trade Report

The ever-growing number of preferential trade agreements (PTAs) is a prominent feature of international trade. The World Trade Report 2011 describes the historical development of PTAs and the current landscape of agreements. It examines why PTAs are established, their economic effects, and the contents of the agreements themselves. Finally it considers the interaction between PTAs and the multilateral trading system.

Accumulated trade opening – at the multilateral, regional and unilateral level – has reduced the scope for offering preferential tariffs under PTAs. As a result, only a small fraction of global merchandise trade receives preferences and preferential tariffs are becoming less important in PTAs.

The report reveals that more and more PTAs are going beyond preferential tariffs, with numerous non-tariff areas of a regulatory nature being included in the agreements.

Global production networks may be prompting the emergence of these “deep” PTAs as good governance on a range of regulatory areas is far more important to these networks than further reductions in already low tariffs. Econometric evidence and case studies support this link between production networks and deep PTAs.

The report ends by examining the challenge that deep PTAs present to the multilateral trading system and proposes a number of options for increasing coherence between these agreements and the trading system regulated by the WTO.

