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

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 countries[10] 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 revitalize 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]

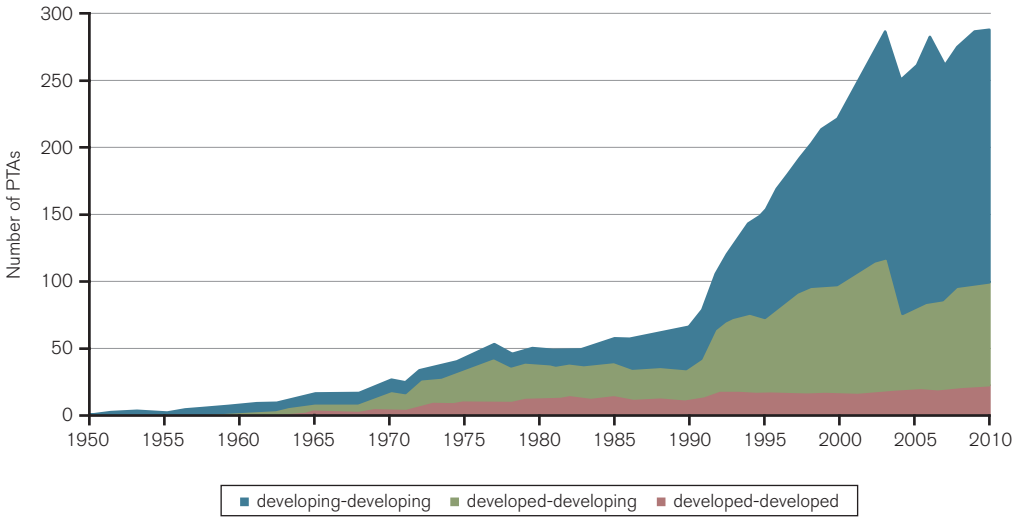
(a) Level of development

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).

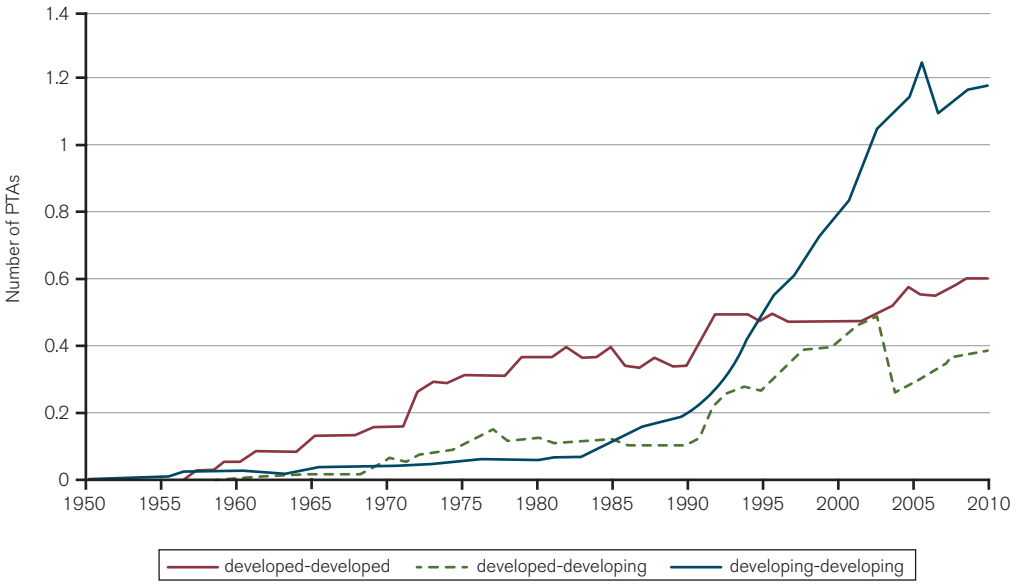
Only about two-thirds of the agreements currently in force have been notified to the WTO. The overall picture of highly dynamic PTA activity in recent times does not change when only notified agreements are taken into

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**



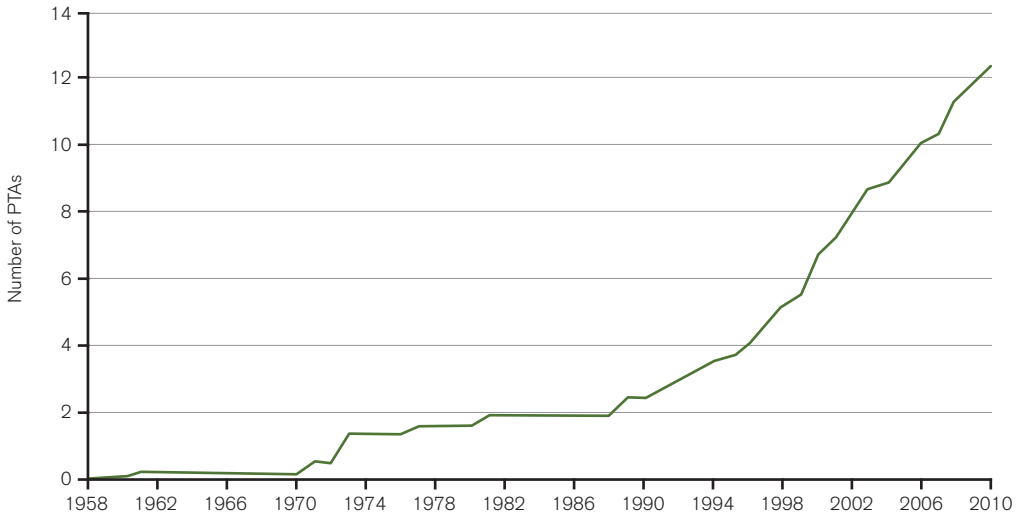
Note: In this figure the total number of PTAs is divided by the present number of countries in the respective groups.

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.

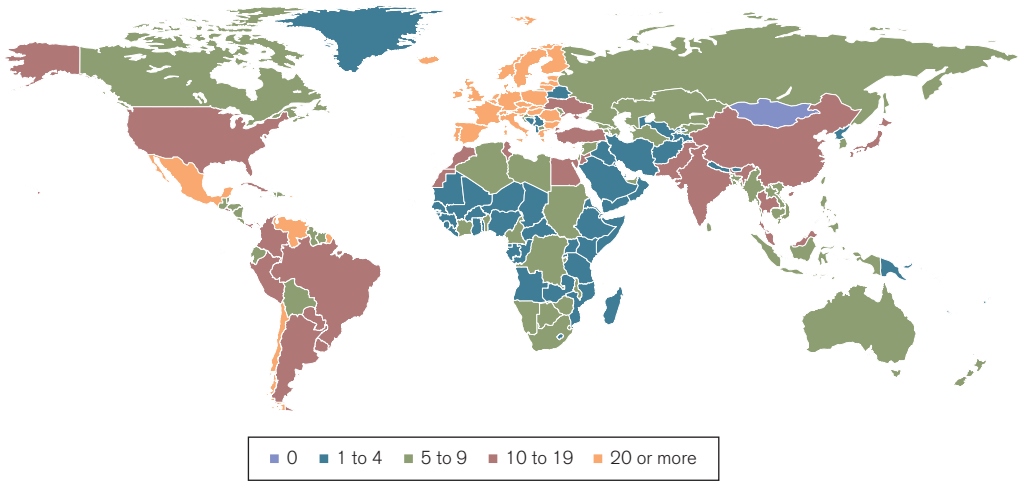
Table B.1: **Total and average number of PTAs in force, 2010, notified and non-notified PTAs, by region, regional type and country group**

		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	1
	Avg/ country	0.4	2.4	0.9	1.1	1.0	0.0	0.9	0.5	0.2	0.9	0.2
Cross-regional	*Total*	31	4	42	52	34	19	14	30	10	34	37
	Avg/ country	0.5	0.3	1.1	4.3	4.9	0.8	1.8	2.3	0.3	1.8	7.4
Developed-Developed	*Total*	0	0	21	0	0	0	0	0	2	1	2
	Avg/ country	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.4
Developed-Developing	*Total*	12	2	41	11	3	3	1	15	11	22	18
	Avg/ country	0.2	0.2	1.0	0.9	0.4	0.1	0.1	1.2	0.4	1.2	3.6
Developing-Developing	*Total*	43	31	16	54	38	16	20	22	2	28	18
	Avg/ country	0.7	2.6	0.4	4.5	5.4	0.7	2.5	1.7	0.1	1.5	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**



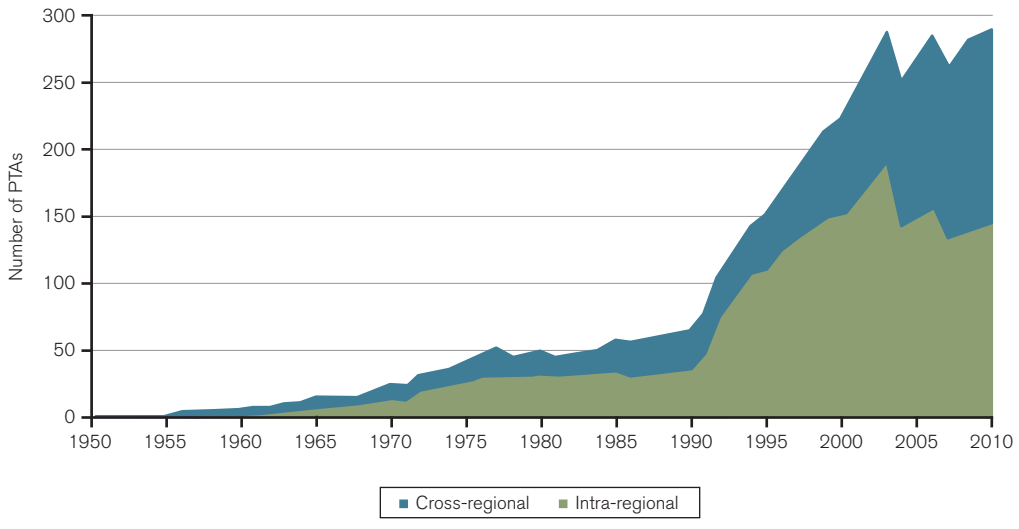
Source: WTO Secretariat.

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	0
	Cross-regional	0	0	0	0	0	0	0	0	0	0	0
1960-69	Intra-regional	1	0	1	0	1	0	0	0	0	0	0
	Cross-regional	0	0	0	0	0	0	0	0	0	0	0
1970-79	Intra-regional	1	0	5	0	1	0	0	0	1	0	0
	Cross-regional	2	0	3	3	1	2	2	2	1	2	2
1980-89	Intra-regional	5	0	1	1	0	0	0	0	2	0	0
	Cross-regional	1	0	1	11	9	4	1	2	0	1	6
1990-99	Intra-regional	12	25	10	9	0	0	2	2	1	2	1
	Cross-regional	11	1	12	10	8	3	1	14	0	0	8
2000-10	Intra-regional	3	4	17	3	5	0	5	5	1	15	0
	Cross-regional	17	3	26	28	16	10	10	12	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.

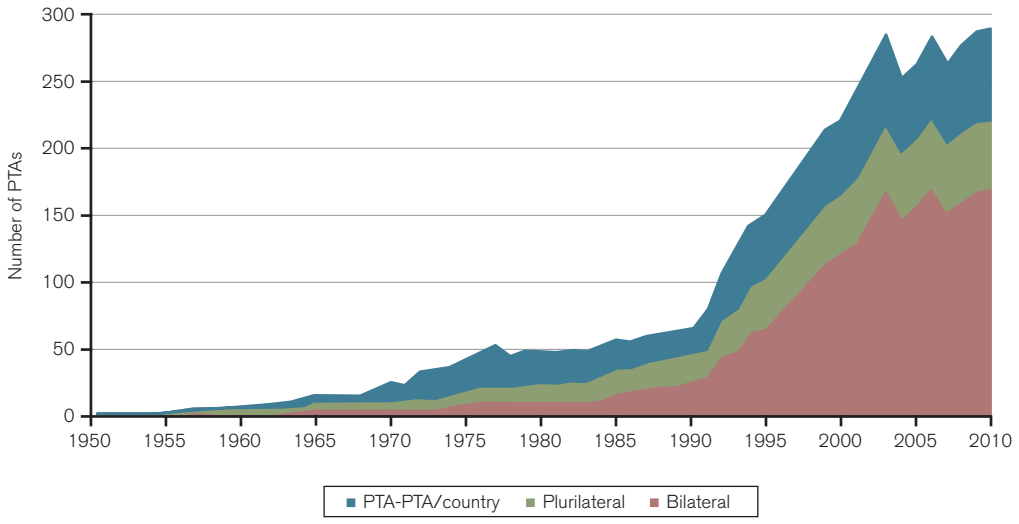
The situation is somewhat different in Asia, where despite some activity within Asia and across regions, the picture is more geographically dispersed and both types of activities took off only after 2000. For instance, in East Asia the number of PTAs with countries in West Asia and Oceania are quite 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]

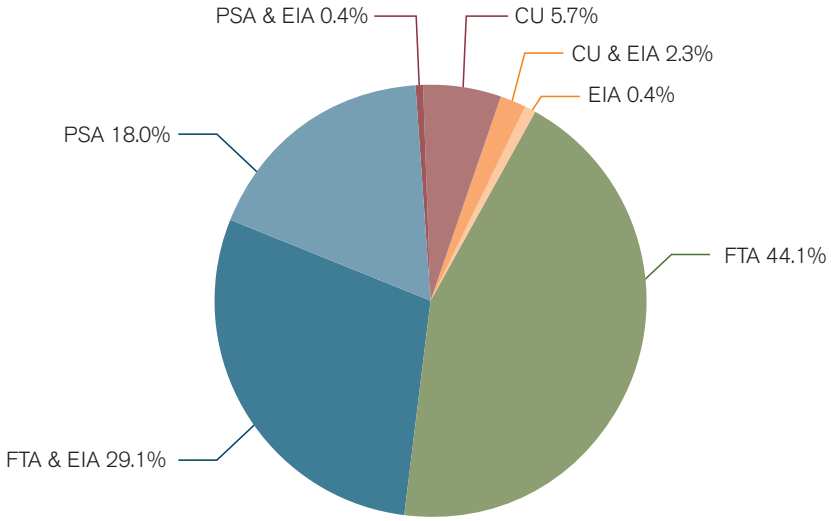
Damuri also highlights several factors related to the pattern of product exclusions, confirming the underlying political economy motivation of maintaining heightened protection for certain industries. As

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**



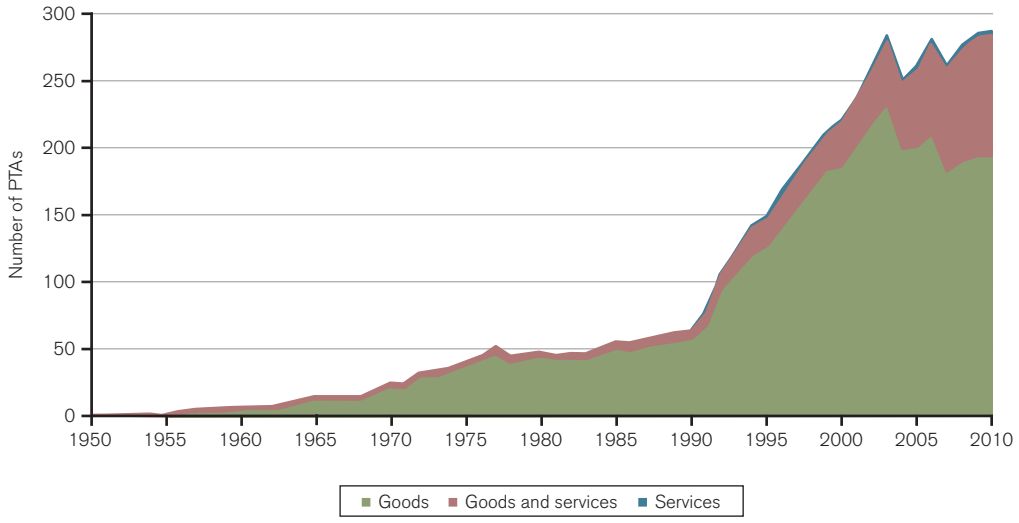
Note: As explained in the introduction, the term "preferential trade agreement" (PTA) is used in this report to denote reciprocal preferential agreements in general. For the purposes of this figure, we follow the classification in Acharya et al. (2011): A "free trade agreement" (FTA) denotes an agreement 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.

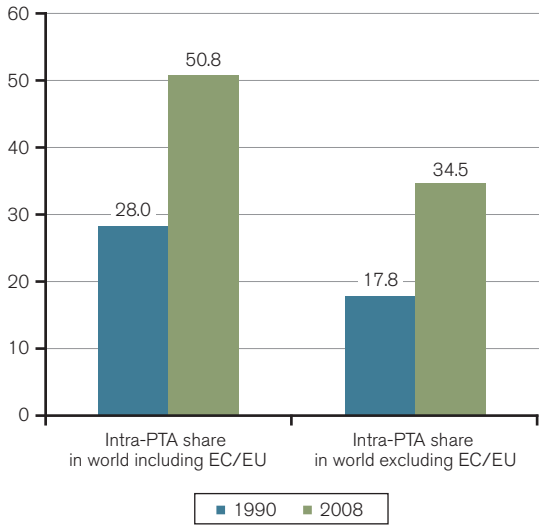
The second question – whether trade has become more or less geographically concentrated – is tackled in Section B.3(b), using WTO statistics on trade between geographical regions. One compelling explanation for the explosion in the number of trade agreements since 1990 is that these agreements may provide 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
of which:						
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
of which:						
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
of which:						
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 excluding EC (12)	537	532	100	100	18	17
Total world merchandise trade excluding EC (12)	3,020	3,121	-	-	100	100

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.

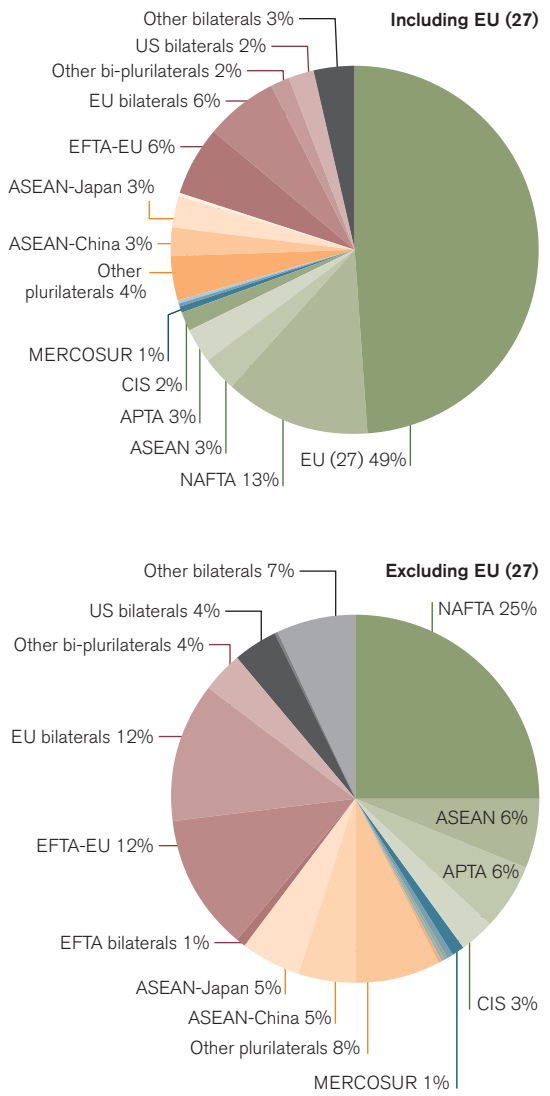
As a final example, despite the low intra-PTA trade shares for total merchandise exports of Africa, intra-PTA trade within COMESA as a percentage of total exports is quite high in certain categories of goods, including automotive products (41 per cent in 2009), parts and components (39 per cent) and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



Source: UN Comtrade database.

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

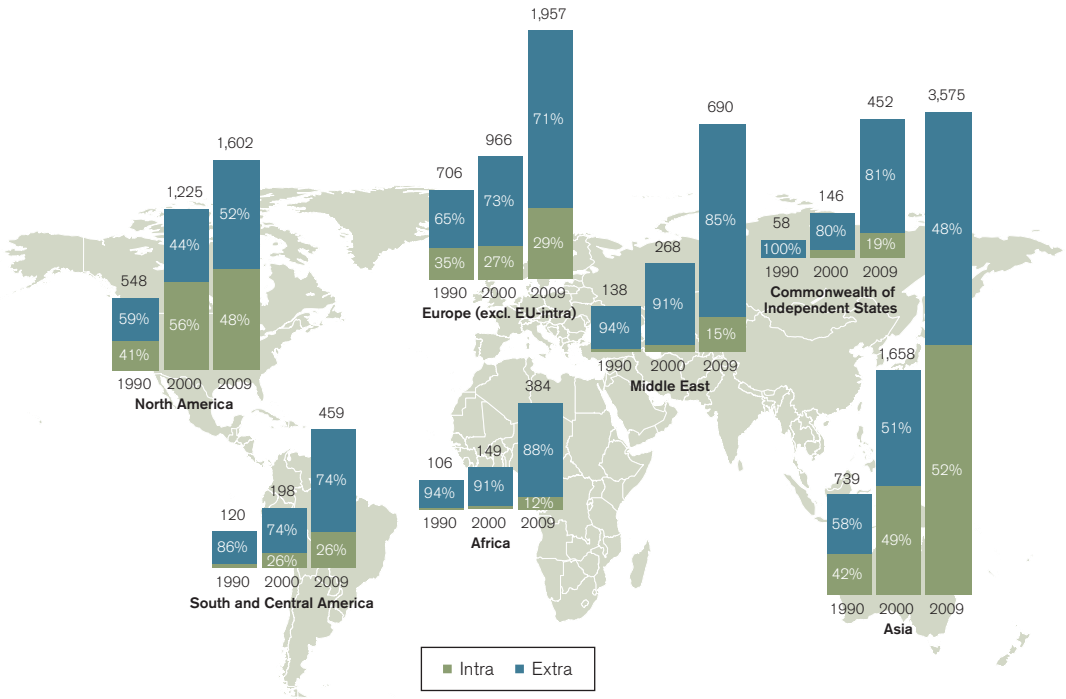
terms. Network data are available back to 2000, according to the WTO's current regional and product classifications, and back to 1990, according to the WTO's old country and product groupings. These have been harmonized to the greatest extent possible in the tables and charts to follow. For data before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

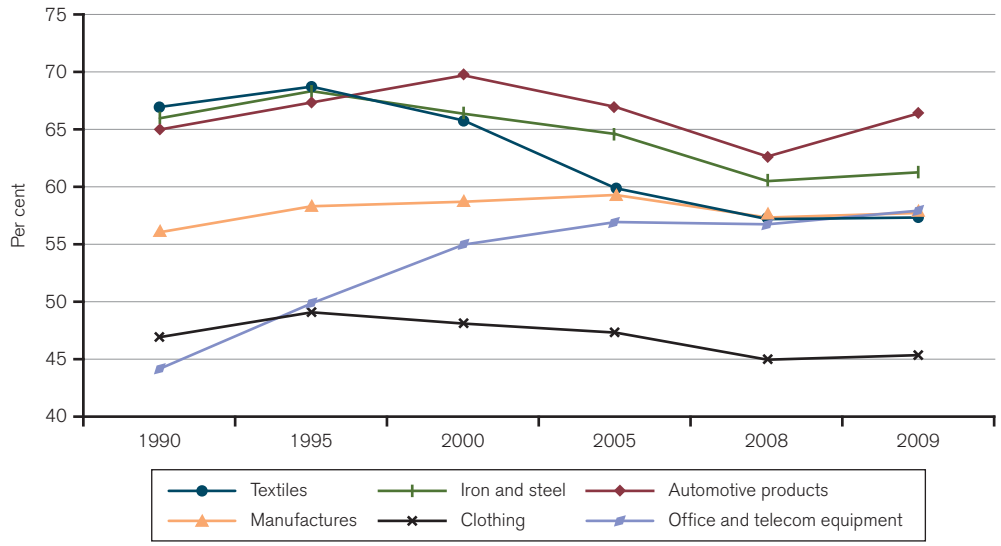
The share of intra-regional trade in world trade can be estimated by taking the sum of intra-regional trade values for all regions and dividing by world merchandise exports. This was equal to 54 per cent of world merchandise exports in 2009, or US$ 6.6 trillion. This share has changed very little since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

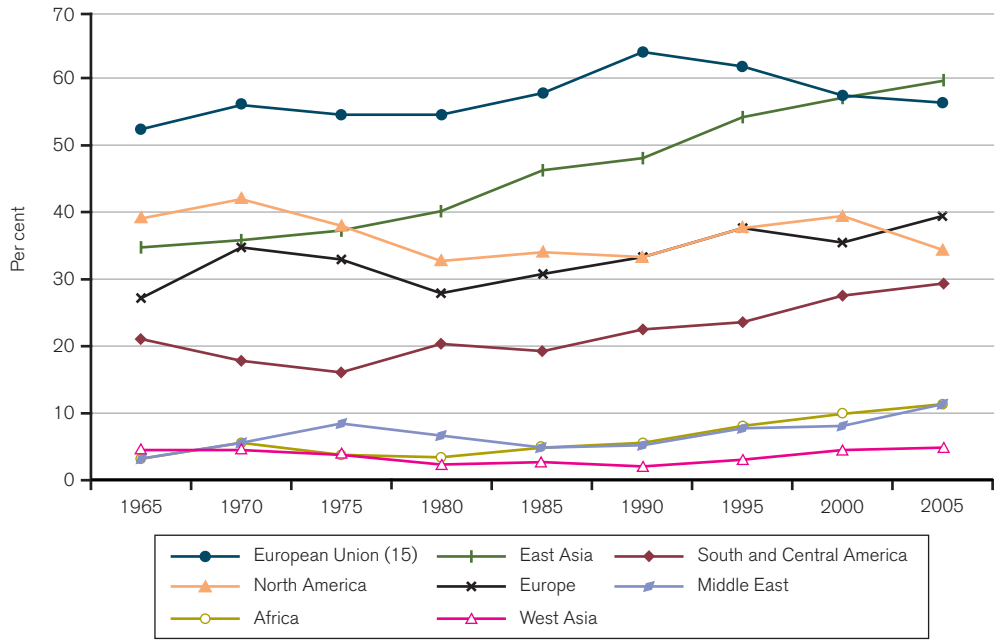
In summary, the share of intra-regional trade in total exports of North America has declined in the last ten years, while Asia has recorded a small increase. During the same period, Europe's intra-regional trade share including intra-EU trade was flat. Resource-exporting regions have tended to increase 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 data[33]

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 global[41] 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

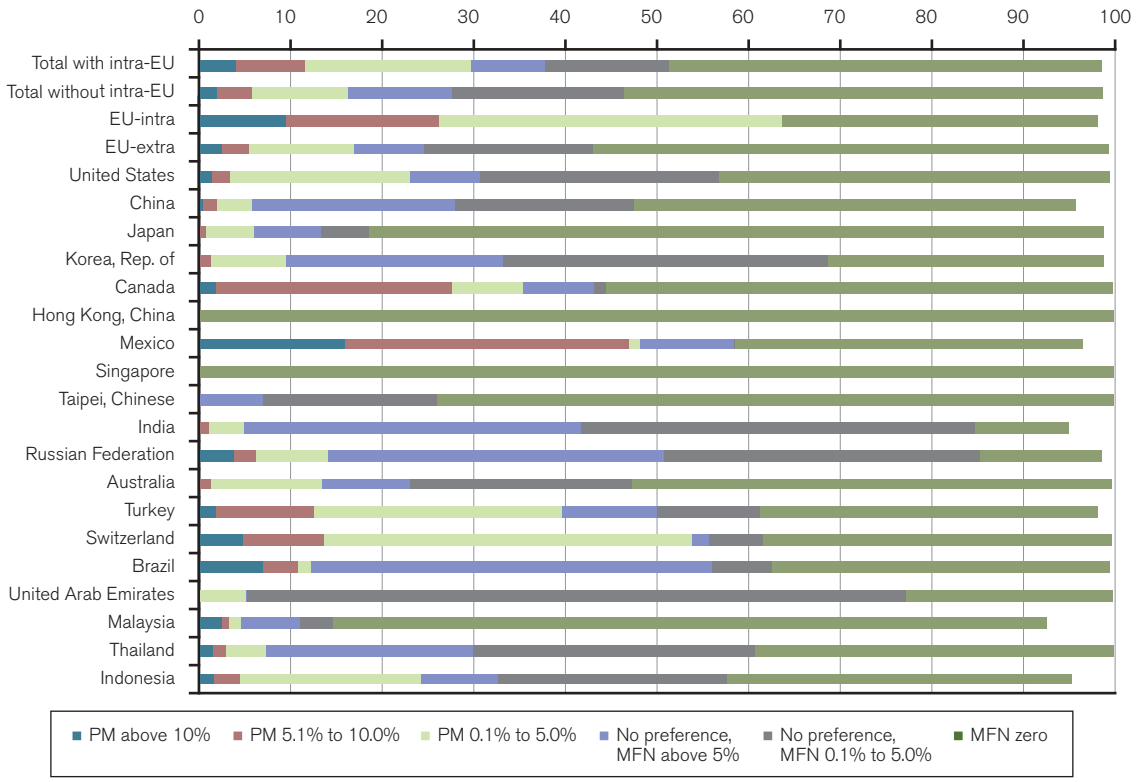
On aggregate, 50 per cent of imports by the 20 countries examined here (excluding intra-EU trade) originate in countries with which some sort of preferential agreement exists (see Appendix table 8). Only a third of that (16 per cent of all trade) is potentially preferential, which can easily be seen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

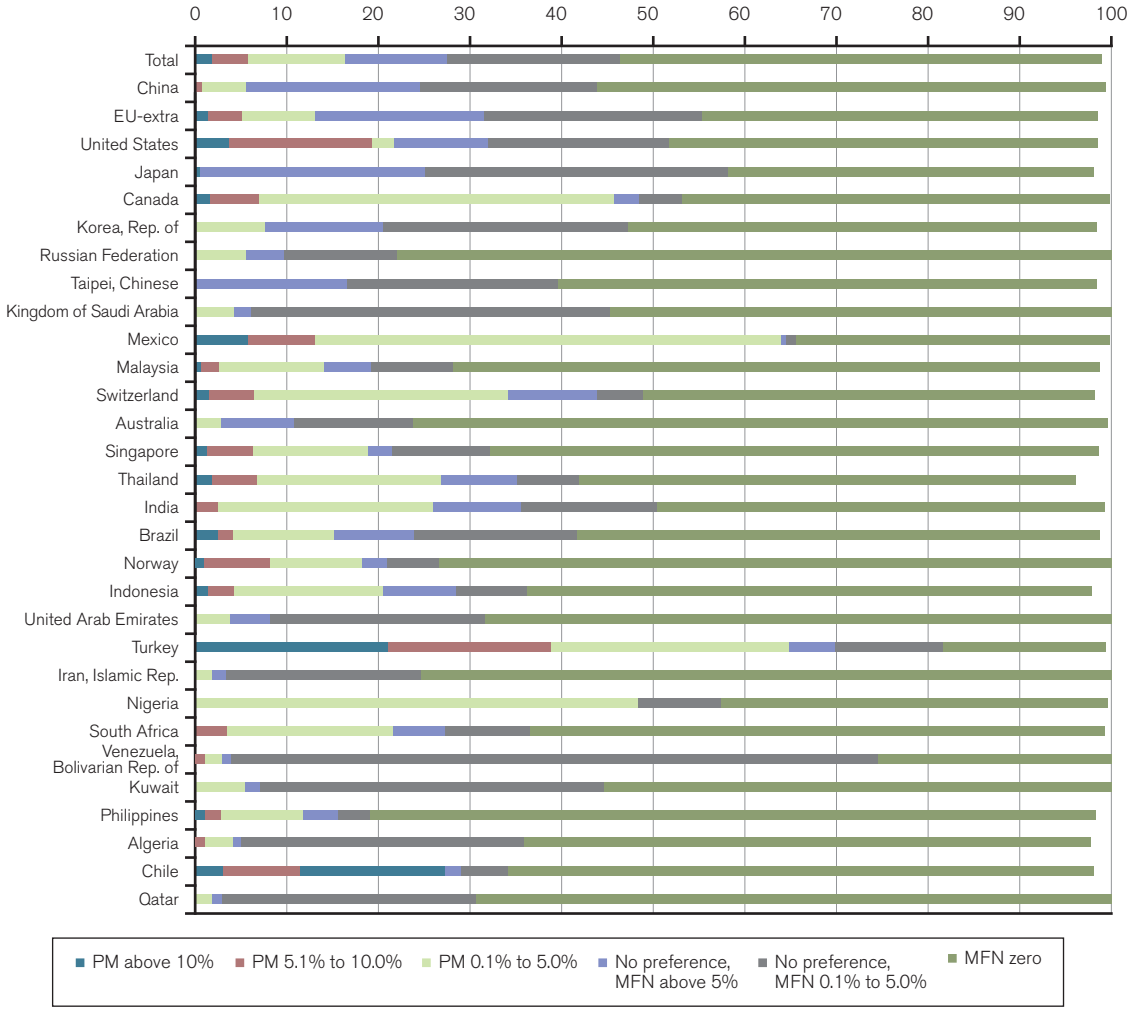
For instance, 95 per cent of exports from Chile, one of the most active negotiators of PTAs in recent years, are destined for countries giving at least some preferences to Chilean goods. However, only 27 per cent of Chile's exports are eligible for preferential tariffs, with just 3 per cent of its exports 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.

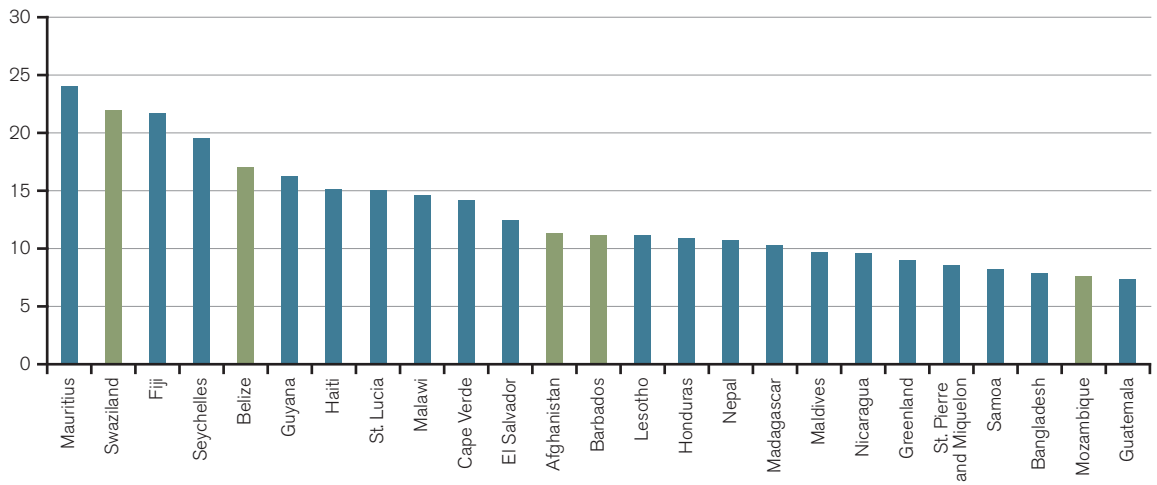
bananas, fish and garments) to preference-granting markets, in particular the EU and to a lesser extent the United States, enjoy more substantial preference margins. For most countries, reciprocal preferences, if measured, for instance, by the share of duties saved through reciprocal schemes in all preferences 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 MNF 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)														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	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					
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)
	Preferential trade						Non-preferential trade						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	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.

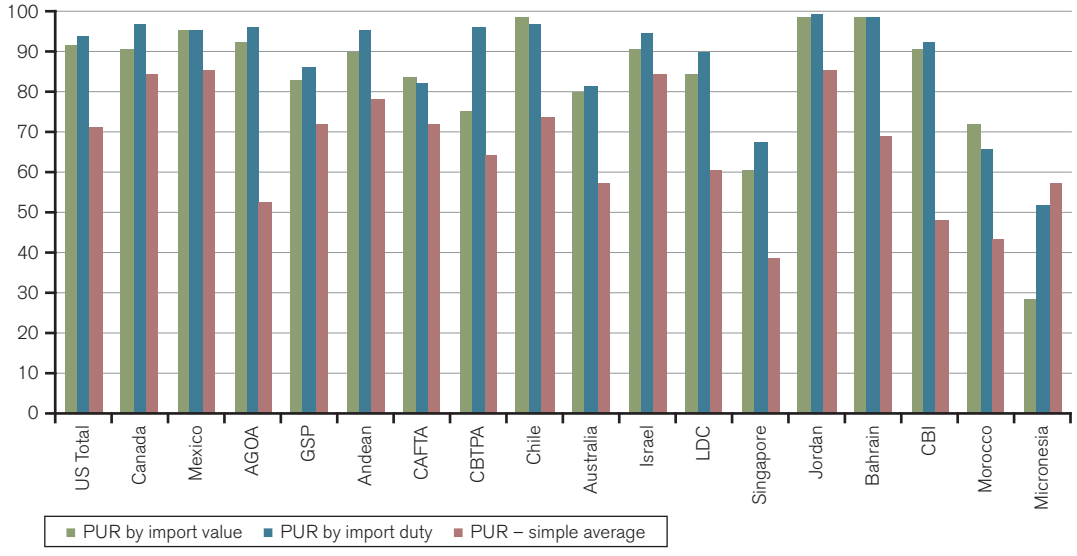
(b) Customs data from the EU and US[58]

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).

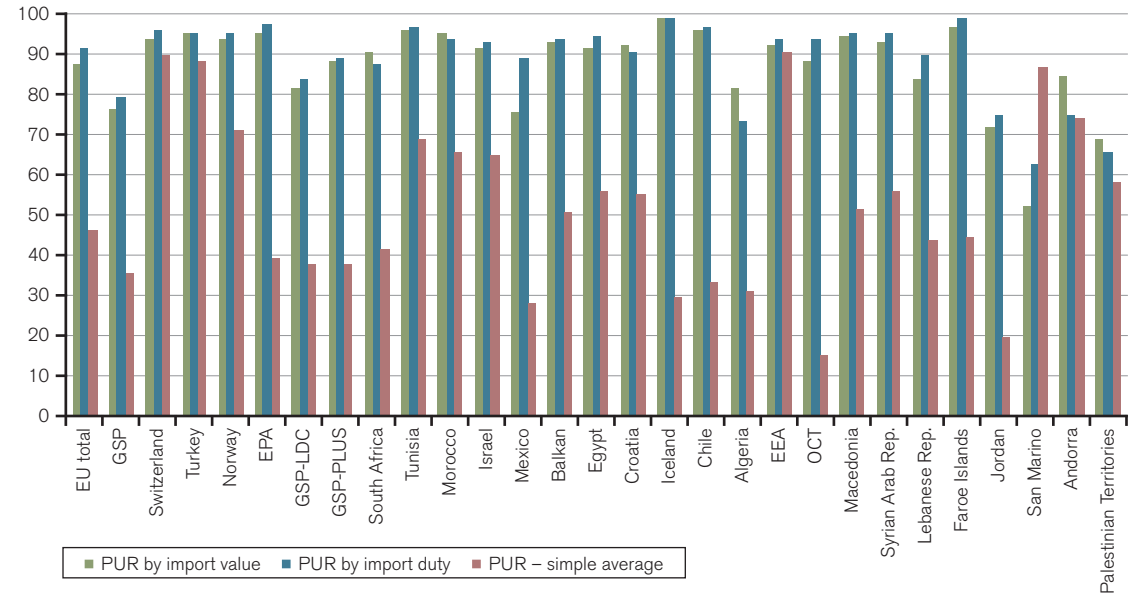
From Table B.11 it can be seen that preference utilization rates do not vary much across product groups. Not surprisingly, utilization is generally a bit higher for agricultural items (99 per cent in the United States), since tariffs are higher for these products. If utilization rates are examined for 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 economies[65] 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

Note: All products of HS Sections 10 and 21 have zero MFN duties in both EU and US and are therefore not shown.

Sources: 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 country[72], 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 PTAs[74]. 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 RoOs[75] 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/dataintal/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 Sebastien (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.