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GLOBAL TRENDS AND IMPLICATIONS

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Protectionist Responses to the Crisis: Global Trends and Implications[1]

Matthieu Bussière[2], Emilia Pérez-Barreiro, Roland Straub and Daria Taglioni[3]

[1] The views expressed in this paper do not necessarily represent those of the European Central Bank (ECB), the Banque de France or the Eurosystem. We would like to thank F. Di Mauro, E. Dorrucci, M. Fratzscher, Bernard Hoekman, H.-J. Klöckers, G. Korteweg, G. Noblet, C. Thimann, an anonymous referee of the ECB's Occasional Paper Series, as well as seminar participants at the ECB, at the 2011 annual Congress of the American Economic ssociation in Denver and at the GEP Conference on "The Global Financial Crisis" at the University of Nottingham of Ningbo for helpful comments and discussions. This paper benefited from contributions and suggestions by T. Bracke, K. Forster van Aerssen and A. Popov.

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Résumé

L'objectif de cette étude est d'évaluer systématiquement les évolutions récentes du protectionnisme dans le monde et leurs effets sur la croissance économique, en se basant sur la littérature économique et sur des simulations réalisées à partir de modèles. Les résultats suggèrent que les mesures tarifaires et non-tarifaires n'ont augmenté que modérément jusqu'ici. Par contre, des mesures indirectes suggèrent une recrudescence des pressions protectionnistes, le mouvement initié depuis le milieu des années 2000 s'étant accéléré depuis la crise financière. A ce jour, cependant, il est remarquable qu'aucun membre de l'Organisation Mondiale du Commerce (OMC) ne se soit retranché derrière des mesures protectionnistes généralisées. Les simulations réalisées à partir de nos modèles suggèrent que des restrictions sur les flux commerciaux pèseraient sur la reprise et auraient des effets à long terme sur la croissance de l'économie mondiale. De plus, des mesures protectionnistes ne seraient pas non plus capables de corriger les déséquilibres mondiaux. Les pays mettant en œuvre des mesures protectionnistes devraient s'attendre à une détérioration de leur compétitivité internationale, ce qui à son tour aurait des conséquences pour leur croissance à long terme.

Mots clés: Protectionnisme, commerce, crise financière, compétitivité, Organisation Mondiale du Commerce, déséquilibres mondiaux.
Classification JEL: F13, F15, F21, F53.

Abstract

In this paper we take a systematic look at recent trends in global protectionism and at the potential implications of a protectionist backlash for economic growth, using results from the recent economic literature and new model simulations. We find that there has so far been a moderate increase in actual protectionist *measures* to restrict trade through tariff and non-tariff barriers. At the same time, evidence from surveys shows that public *pressure* for more economic protection has been mounting since the mid-2000s, and has possibly intensified since the start of the financial crisis. However, no World Trade Organization (WTO) member has retreated into widespread trade restrictions or protectionism to date. Our model-based simulations suggest that the impairment of the global flow of trade would hamper the recovery from the crisis, as well as the long-term growth of the global economy. At the same time, it is unlikely that protectionism would help to correct existing current account imbalances. Moreover, the countries implementing protectionist measures should expect a deterioration of their international competitiveness, which would further affect the potential for longer-term real GDP growth.

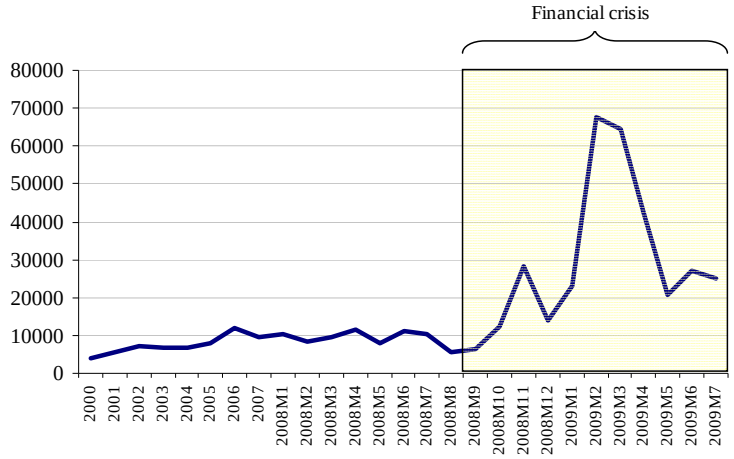
Keywords: Protectionism, trade, financial crisis, competitiveness, World Trade Organization, global imbalances.
JEL: F13, F15, F21, F53.

Introduction

Since the intensification of the crisis in September 2008, the issue of trade protectionism has received considerable attention in the media, reflecting a rise in protectionist *pressures* in the world (the number of press articles including the word "protectionism" increased considerably in the peak months of the crisis. This number then fell, but remained at levels that are twice as high as in the pre-crisis era, see Figure 1). Historical experience from the 1930s and from the 1970s shows that the escalation of public pressure for more protection against foreign competition tends to generate actual protectionist measures, leading to systemic risks and triggering a spiral of restrictions, tensions and retaliations across countries. Indeed, some incipient but worrying signs have already surfaced. Shortly after the commitment made by G20 leaders on 15 November 2008 to *"refrain from raising new barriers to investment or to trade in goods and services, imposing new export restrictions, or implementing World Trade Organization (WTO) inconsistent measures to stimulate exports"*, 17 out of these 20 nations actually announced protectionist measures (see Gamberoni and Newfarmer (2009)). A number of protectionist trade provisions were introduced in several countries' economic stimulus packages, while indirect evidence of a rise in actual protectionism can be gauged by the state of difficulty of the free trade agenda, be it at the multilateral or bilateral level. In particular, considerable delay is still being accumulated in completing the Doha Round of trade negotiations, in spite of the commitment made by the G20 at their November 2008 meeting to end the round by the end of that year and the several ensuing high-level pledges. Fears of rising protectionism come at a delicate time for the world economy. Many countries face prospects of rising unemployment, while global trade flows have weakened considerably since the end of 2008; not only has world trade been hit severely by the drop in world demand, but trade itself has also helped to propagate the crisis across borders, making it a truly global phenomenon. Against this background, a resurgence of trade protectionism would significantly impair the still fragile recovery process as it would further affect already weak trade flows and global demand.

Figure 1: Importance of the word "protectionism" in the news

(number of articles including the word "protectionism"; annual frequency between 2000 and 2007, annualised monthly frequency since January 2008)

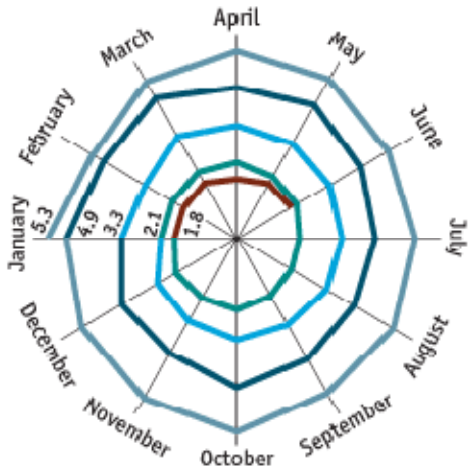


Source: Dow Jones Factiva.
Notes: Number of articles including the word "protectionism". Latest observation: March 2009.

The consequences of a rise in protectionism are potentially very substantial. The outburst of protectionism that followed the 1929 market crash is considered to have contributed to the propagation of the crisis and to a marked worsening of the Great Depression (Kindleberger (1986)). Between 1929 and 1933, world trade followed a downward spiral and ultimately contracted by 66% (Figure 2). The protectionist policies implemented at the time of the Great Depression took a variety of forms. The most frequently cited example of such measures is perhaps the sharp increase in tariffs on US imports introduced by the Smoot-Hawley Act on 17 June 1930, but many other non-tariff measures were introduced, including quotas, "competitive" exchange rate devaluations, export subsidies and other indirect measures (Eichengreen and Irwin (2009)).

Figure 2: The downward trade spiral during the Great Depression

(world trade; 1929-33; current USD billions)



Sources: League of Nations' World Economic Survey, 1932-33, and The Economist.

What is important is that the possibility that a similar event will materialise in the aftermath of the current crisis should not be ruled out. Recent analysis suggests that, contrary to common belief, trade protection in the 1930s was less an instance of special interest run amok than the result of the implementation of second-best macroeconomic policy management at a time when monetary and fiscal policies became severely constrained (Eichengreen and Irwin (2009)). Given the historical precedent of the Great Depression, global trends in protectionism should be closely monitored and their potential effects carefully assessed.

The intended contribution of the paper is twofold. First, it assesses recent developments in trade and financial openness, and identifies potential sources or calls for future protectionism. It does so by presenting a battery of indicators, including estimated measures of protectionism, which have not been published previously. The paper also compiles recent protectionist pressures and measures in order to identify the most recent trends. Second, the paper sets out to evaluate the impact of protectionism using model-based simulations. Simulation analysis clearly shows that a rise in protectionism is unlikely to mitigate an important source of public concern for open markets: widening external imbalances. It also shows that, in the longer run, protectionist measures would have negative implications for real GDP growth and competitiveness. More precisely, the paper proceeds in three steps:

First, it introduces the discussion by taking stock of the evolution of trade and financial liberalisation over time and across countries, taking a perspective that stretches over the past two decades. Such

indicators include data on tariffs, subsidies, quotas, indirect measures and the number of complaints at the WTO. Given the particular difficulty of assessing non-quantitative measures, we also provide evidence based on the estimation of trade frictions, using a gravity model and the methodology of Head and Mayer (2004a, b).

Second, recognising that it is too early to fully and globally assess the recent measures and policies that introduce new protection to domestic markets, it provides evidence of the recent escalation in demand and pressure for more protection. The indicators of protectionist pressures presented in the paper mainly include statements made by policy-makers, evidence from survey data and indirect evidence, for instance concerning the recent evolution of the multilateral, regional and bilateral trade negotiations. Yet it also provides a non-exhaustive review of recently implemented and announced protectionist measures, focusing on systemically relevant countries.[4]

Finally, the paper evaluates the effects of protectionism, in particular on output, trade and competitiveness by presenting model-based simulations. The simulations use models developed at the ECB: the MCNAWM model (Jacquinot and Straub (2008)) and the framework devised by Ottaviano et al. (2008, 2009). As a corollary, the paper also reports findings from the literature on the overall impact on trade and on inequalities.

Throughout the analysis, the paper focuses on protectionism associated with trade in goods, for which data coverage is generally very good, both across countries and over time (another reason to focus on trade in goods is that goods account for 80% of world trade). However, the paper also tackles the topic of trade in services, which is less frequently analysed. Services account for some 20% of total world trade flows but, for specific countries, services actually account for a much larger proportion of total exports. Moreover, looking forward, as the services sector is still prone to much regulation and protection, with liberalisation empowered by technological progress, the share of services in world trade may actually increase, transforming currently non-traded activities into fully tradable services. The paper also briefly tackles the issue of financial protectionism, to the extent that it is relevant for trade in goods and services – in particular, restrictions on foreign direct investment (FDI), which have a direct effect on trade.

The main findings of the paper are as follows. First, the analysis of recent developments suggests that it is difficult to fully identify and properly quantify recent protectionist measures. However, while the partial data available thus far would suggest that actual protectionist measures to restrict trade through tariff and non-tariff barriers have risen, the economic impact has so far been moderate. At the same time, increasing public pressure for protectionist measures and difficult macroeconomic prospects suggest that the risk of further slippage lies ahead. Hence it is important that countries continue to provide clear evidence of their goodwill and commitment to market openness during a vulnerable period. Second, model-based simulations suggest that the impairment of the global flow of trade would hamper the recovery from the crisis as well as the long-term growth potential of the global economy. At the same time, it is unlikely that protectionism would help to correct existing current account imbalances. Moreover, the countries implementing protectionist measures should expect a deterioration of their international competitiveness, which would further affect the potential for longer-term real GDP growth.

[4] The paper focuses on G20 countries, given their prominence in the world economy (they account for around 85% of world GDP and 80% of world trade) and the difficulty of covering a broader diversity of countries. Where relevant, the paper occasionally refers to additional countries.

The rest of the paper is organised as follows. Section 2 assesses global trends in trade and financial liberalisation by reviewing selected indicators of protectionism over the past two decades. Section 3 turns to protectionist pressures, including some very recent announcements. Finally, Section 4 presents simulation results, in which the aim was to evaluate the effect of protectionism on international trade, output and competitiveness. Section 5 concludes.

1 Trade and financial liberalisation since the 1990s

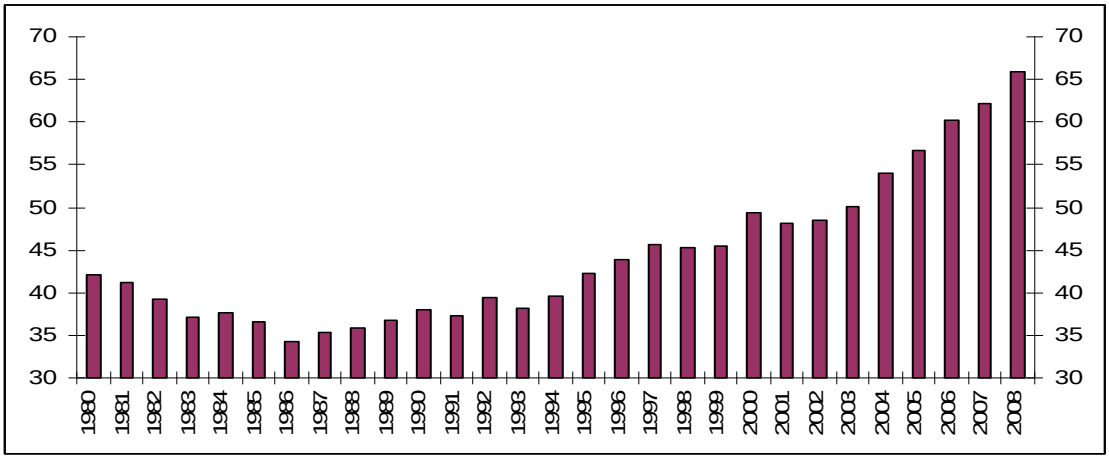
The current financial crisis has challenged many well-established economic notions. Yet, the foundations of economic growth theory remain fully valid. Countries' long-term growth and welfare continue to hinge on an efficient allocation of resources and on the existence of an environment conducive to innovation. Properly regulated free markets contribute to this process by ensuring an efficient allocation of the world's scarce resources to the most productive activities across the world and by sharpening the global competitive environment.[5]

Economic developments over the past two decades confirm the growth and welfare-enhancing benefits of open markets. Over this period of time, unprecedented growth of world GDP has been associated with rapidly growing interdependence of economies worldwide via an increase in cross-border transactions in goods and services, natural resources, capital and labour. Moreover, over those years, important countries and regions that were previously only marginally involved in international transactions have rapidly become important actors in global economic relations. Technical progress, the surge in information and communication technology, and a sizeable reduction in tariffs and non-tariff barriers have resulted in a massive fall in the cost of transporting goods, services and information, as well as a sharp increase in cross-border activities, all of which have encouraged a further rapid integration of economies worldwide. More and more goods and services have become tradable, and domestic companies have become increasingly involved in international trade. Indeed, the dynamism of world trade is self-evident. World trade has grown significantly faster than worldwide output, by around one and a half times since 1991 (Figure 3), and the degree of openness of many countries – measured by the sum of total exports and total imports as a ratio of GDP – has increased significantly.

[5] All else being equal, economic theory suggests that stronger international competition should bring about lower costs for firms and lower prices of traded goods for consumers worldwide, while also increasing the availability of new product varieties. Moreover, it should promote technological advances and knowledge transfer, as well as productivity and economic growth.

Figure 3: World trade as a percentage of world output

(percentages)



Source: IMF World Economic Outlook.
Notes: Trade refers to the sum of exports and imports of goods and services. Data for 2008 are estimated.

Given this background, the aim of this section is to present selected indicators of the great roll-back of protectionism observed since the early 1990s. The analysis starts with trade in goods and then turns to trade in services and to financial flows. Barriers to trade in goods and services can be measured by different types of indicators, which are often classified as "quantitative" or "qualitative" measures. "Quantitative" measures include mainly tariffs, but also import quotas and limitations, subsidies and exchange controls. These barriers are "quantitative" because they are relatively easy to quantify. They are also relatively easy to measure because they are in most cases announced publicly. "Qualitative" barriers, by contrast, refer more broadly to government policies and regulations that directly or indirectly hinder free trade. Examples of such barriers include competition policy, industrial policy, discriminatory treatment towards foreign capital, customs valuation and classification, industrial standards and quality standards. Accordingly, "qualitative" barriers are more difficult to measure because, first, they may not be announced publicly and, second, they cannot be directly expressed numerically. Given the difficulty of assessing these measures, the paper also proceeds indirectly and presents some measures based on estimated trade frictions.

The rest of this section analyses the different measures in turn. The main message is, first, that a great deal of effort has been deployed in recent decades to decrease the level of protectionism, which partly explains why world trade has risen faster than world output. Box 1 presents some of the key steps towards the multilateral institutional arrangements. However, progress has been uneven across countries and across sectors. In particular, tariffs remain higher among emerging market economies than in advanced countries; they also tend to be higher for agricultural goods and services than for manufactured goods. One implication of this is that the gains from further liberalisation tend to be lower than a few decades ago for manufactured goods, before the wave of trade liberalisation. For services and agricultural goods, by contrast, the gains from liberalisation may be substantial, thereby suggesting that further liberalisation efforts should focus on these areas. Concerning financial flows, significant steps towards liberalisation have also been taken in the past decades, but there are clear signs of reversals in some countries.

Box 1: Institutional arrangements regulating international trade

The General Agreement on Tariffs and Trade (GATT) was created in 1947. The purposes of creating the GATT was to reverse the commercial policies of the 1930s that involved great restrictions on, and discrimination in, world trade. These anti-trade policies arose in part because countries sought to insulate themselves from the Great Depression through what became known as "beggar-thy-neighbour" policies (see Irwin et al. (2008)). However, the protectionist practices of the 1930s failed to reduce unemployment and increase economic growth. The reason was a classical Keynesian "fallacy of composition": as every country tried to save its own industries and protect its own workers, international trade collapsed, the problems faced by the world economy were exacerbated and political friction between countries increased.

In the immediate post-war period and after observing the harmful effects of protectionist policies, economists and government officials, in particular from the United States and the United Kingdom, sought to foster policies that would reduce trade barriers and stimulate trade and growth. Hence, in 1948, the GATT was born, with the aim of reducing and binding customs tariffs. It initially counted 23 "contracting parties", of which 12 were developed countries and 11 developing countries. The original intention was for the GATT to be a transitory agreement. An institution was planned, whose objective was to handle the trade side of international economic cooperation, connecting the two "Bretton Woods" institutions, the World Bank and the International Monetary Fund. Over 50 countries participated in negotiations to create, by 1947, the International Trade Organization (ITO) as a specialised agency of the United Nations. However, the institution failed to be created because of its ambitious coverage: it extended beyond world trade disciplines to include rules on employment, commodity agreements, restrictive business practices, international investment and services. As a result, the GATT became the only multilateral instrument governing international trade from 1948 until the World Trade Organization (WTO) was established in 1995.

For almost half a century, the GATT's efforts focused on reducing tariffs. Much of this was achieved through a series of multilateral negotiations known as "trade rounds", with the biggest leaps forward in international trade liberalisation originating from such rounds. In the early years, the GATT trade rounds concentrated on further reducing tariffs. Then, the Kennedy Round in the mid-1960s brought about a GATT Anti-Dumping Agreement and a section on development. The Tokyo Round during the 1970s was the first major attempt to tackle trade barriers that do not take the form of tariffs and to improve the multilateral trade system itself. The Uruguay Round of 1986-94, was the last and most extensive of all the rounds held under the GATT's auspices. It led to the establishment of the WTO and a new generation of agreements.

Currently, the WTO has 153 members and decisions are generally reached by consensus. It is a rules-based institution whose main functions include the implementation and monitoring of existing rules, the surveillance of trade policies and the management of disputes. The overall conduct of the negotiations for establishing new rules and further trade concessions is supervised by a Trade Negotiations Committee, which operates under the authority of the WTO General Council and is chaired by the director of the WTO. It establishes negotiating mechanisms and supervises the progress of the negotiations carried out by the member states (see the table for the structure of the WTO).

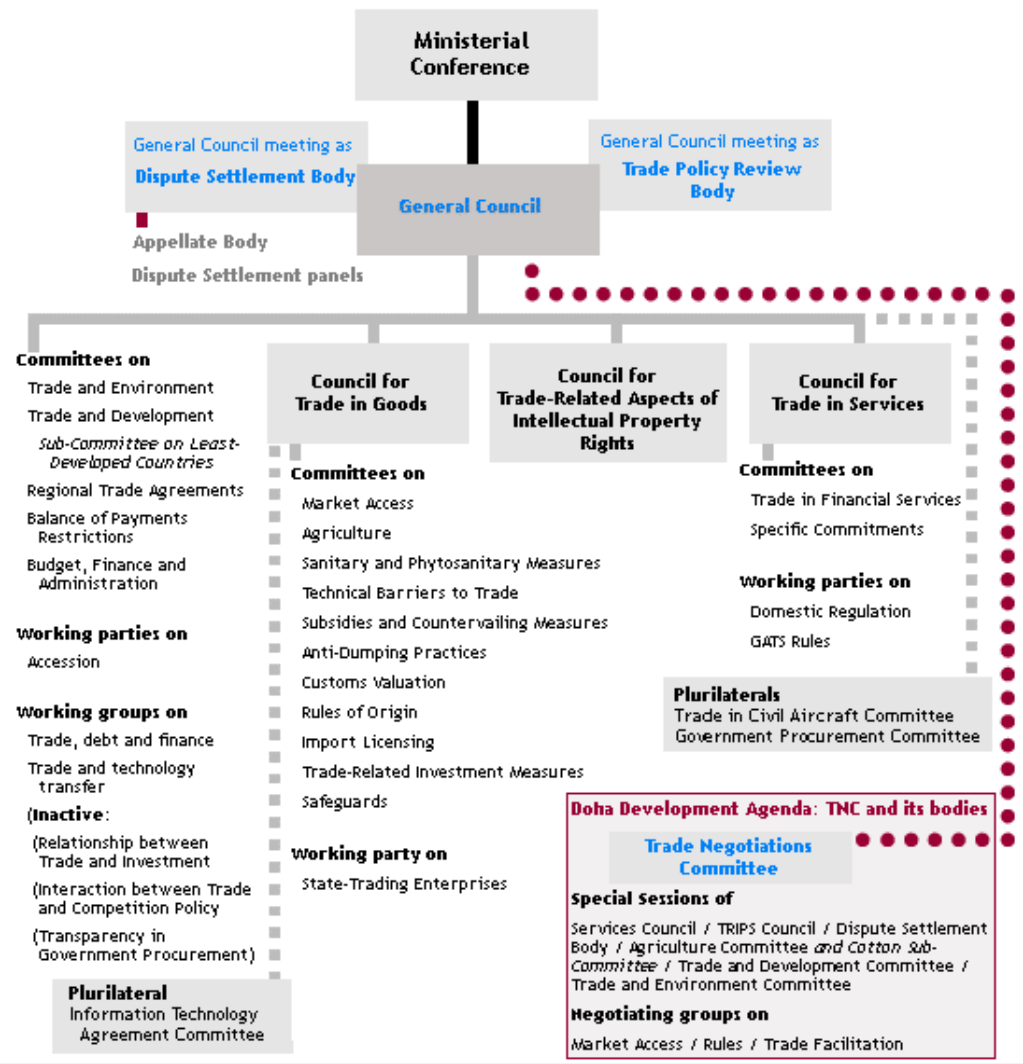
The basic principles under which the WTO operates are the following:

- Non-discrimination: two instruments ensure this. First, the "most favoured nation" clause ensures that a tariff reduction (or similar) given to one member must also be given to all other members (GATT, Art. I, GATS, Art. II, TRIPS, Art. 4). Second, the "national treatment" principle requires that once inside the border, imports must be treated no less favourably than domestic products (GATT, Art. III; GATS, Art. XVII, TRIPS, Art. 3).

- Binding and reduction through negotiation: members commit not to raise protection above a specific level. Moreover, negotiation rounds progressively reduce bound levels.

- Reciprocity: members pay for market access "gains" for their exports by making market access "concessions" in favour of their trading partners' exports.

A number of other principles call for balance and fairness in trade arrangements, fair competition and support for economic development. The exceptions to the above principles are tightly regulated.



Key

- Reporting to General Council (or a subsidiary)
- Reporting to Dispute Settlement Body
- Plurilateral committees inform the General Council or Goods Council of their activities, although these agreements are not signed by all WTO members
- Trade Negotiations Committee reports to General Council

Source: WTO's website (http://www.wto.org/english/thewto_e/whatis_e/tif_e/organigram_e.pdf)

In addition to the international process, regional integration has also proceeded at a fast pace. The most advanced stage of regional integration was achieved by the European Union (EU). The main steps of this process were the European Coal and Steel Community in 1951, the Treaty of Rome in 1957, the Single European Act in 1986, the Maastricht Treaty in 1992 and the Treaties of Amsterdam (1997), Nice (2001) and Lisbon (2007). Trade integration in the EU was also supported by jurisprudential decisions such as the so-called "Cassis de Dijon" 1979 court case by the European Court of Justice, which ruled against measures having the equivalent effect of restricting trade. As there is no space to review this process here, we would like to refer the interested reader directly to EU publications, many of which are available on-line.[6] Similarly, detailed information on regional free trade agreements can be found on the website of the World Trade Organization.[7]

[6] See, for instance ,"European Commission: The EU Single Market: Fewer Barriers, More Opportunities" (http://ec.europa.eu/internal_market/index_en.htm).

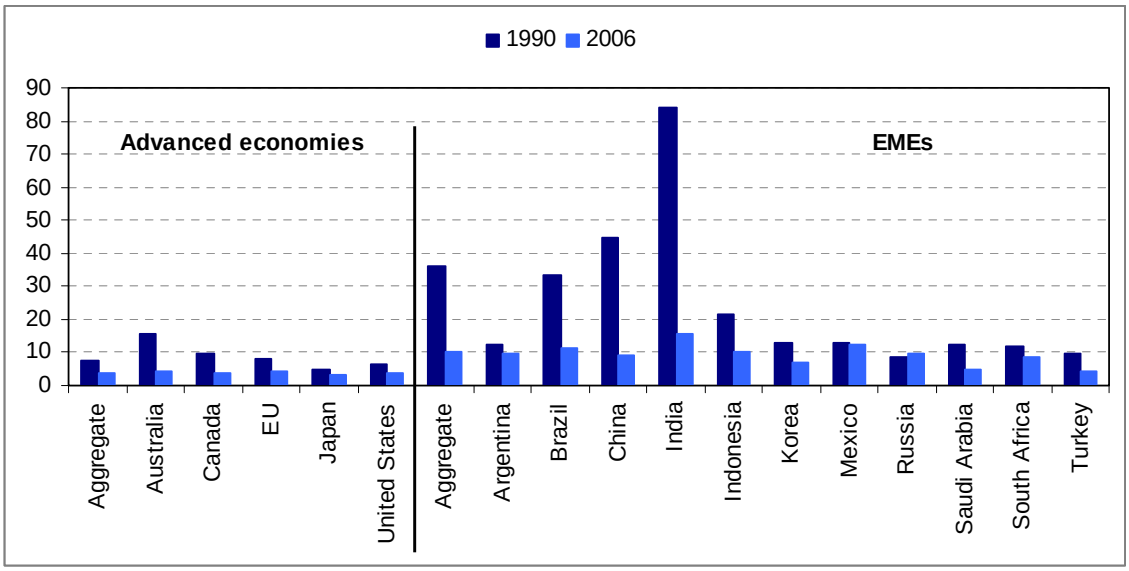
[7] http://www.wto.org/english/tratop_e/region_e/region_e.htm.

1.1 Trade in goods

1.1.1 Quantitative measures

Tariffs represent one of the most important components of the quantitative measures that restrict international trade. Measuring tariffs is, in fact, not as straightforward as it may appear, given the different methodological issues that arise in this process, with the result that different indicators may yield different measures (see Bouët et al. (2008) for a methodological discussion). Having said that, these methodological issues do not affect the overall assessment when measuring long-term market openness. Against this background, one prominent statistical series to evaluate tariffs at the world level is the one reported by the United Nations Conference on Trade and Development (UNCTAD) in the Trade Analysis and Information System (TRAINS). According to that series, tariffs fell over the period 1990-2006 both in major advanced economies (the United States, the EU and Japan) and in large emerging economies such as Brazil, India and China (Russia is an exception among the "BRICs" countries), as shown in Figure 4. Tariffs are still markedly higher in emerging economies, but the gap between advanced and emerging economies has decreased since the early 1990s.

Figure 4: Average of MFN (most favoured nation) applied import tariff rates on manufactured goods *(percentages)*

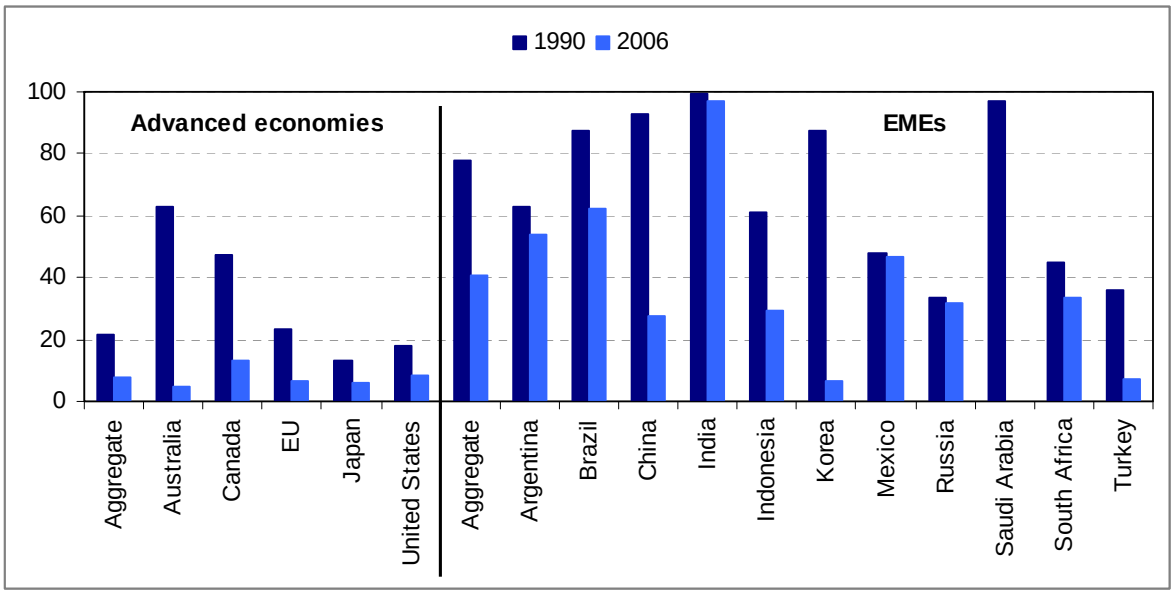


Source: UNCTAD Handbook of Statistics 2008.
Notes: 1990 data are not available for Argentina (1992), Australia (1991), Canada (1993), China (1992), Mexico (1991), Russia (1993), Saudi Arabia (1994) and Turkey (1993).
2006 data are not available for India and Russia, so that 2005 data were used instead.
The aggregates were computed using 2006 GDP weights converted to the same currency using purchasing power parity.

However, one needs to take account of the fact that emerging markets have gained an increasing market share since 1990. For instance, the BRICs accounted for only 5% of world trade in 1990, as opposed to nearly 14% today, the counterpart of this rise being a fall in the market share of advanced economies: the growing market share of the BRICs, whose tariffs are higher, therefore affects the overall change in market protection observed over the period under analysis. The distribution of tariffs across countries is characterised by a major difference between the emerging market economies, where around 60% of the tariffs are above 10%, and developed countries, where this share is below 20% (Figure 5). Although emerging economies have reduced average tariff levels, they still apply high tariffs to most manufactured goods. As a result, in some sectors where emerging markets have increased their market share substantially, an overall increase in market protection might be perceived.

Figure 5: Percentage of manufactured goods subject to MFN import tariffs above 10%

(percentages)

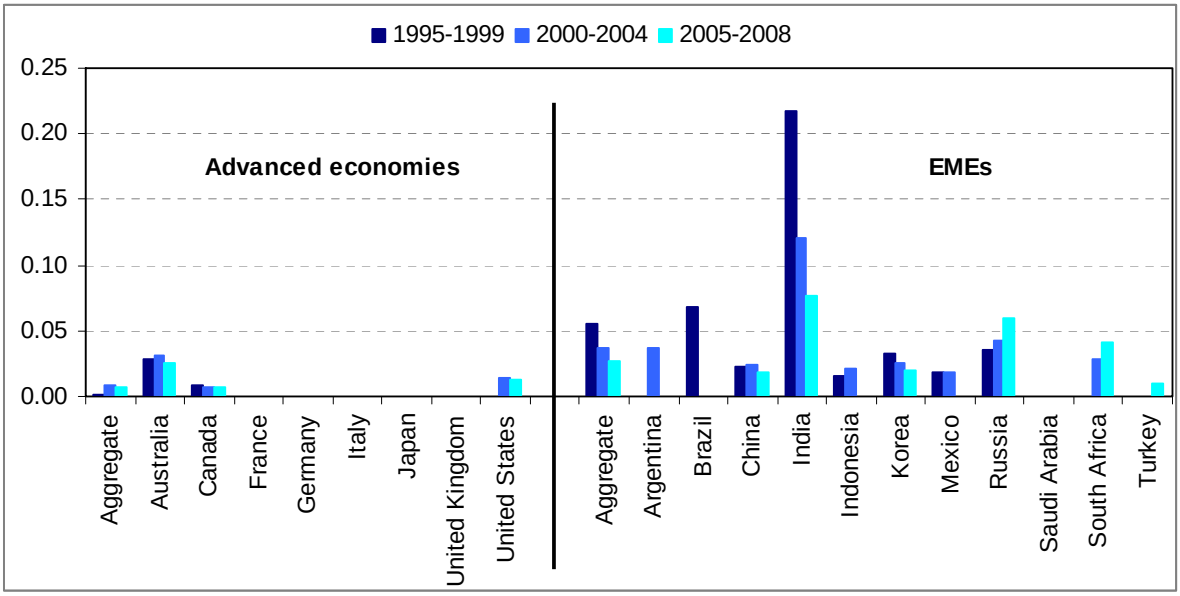


Source: UNCTAD Handbook of Statistics 2008.

Notes: The aggregates were computed using 2006 GDP weights converted to the same currency using purchasing power parity. They report the percentage of manufactured goods subject to MFN import tariffs above 10% out of the total manufactured goods (with or without tariffs). 1990 data are not available for Argentina (1992), Australia (1991), Canada (1993), China (1992), Mexico (1991), Russia (1993), Saudi Arabia (1994) and Turkey (1993). 2006 data are not available for India and Russia, so that 2005 data were used instead.

Another way to gauge the economic importance of remaining tariffs and other duties is to compare the revenues they generate for governments with the value of total imports (Figure 6). The tax revenue derived from tariffs represents a major consideration for some governments in international negotiations. While this value is negligible for advanced economies, it is actually very substantial for many emerging market economies, especially India (despite a notable reduction in recent years).

Figure 6: Customs and other import duties as a percentage of imports *(percentages)*

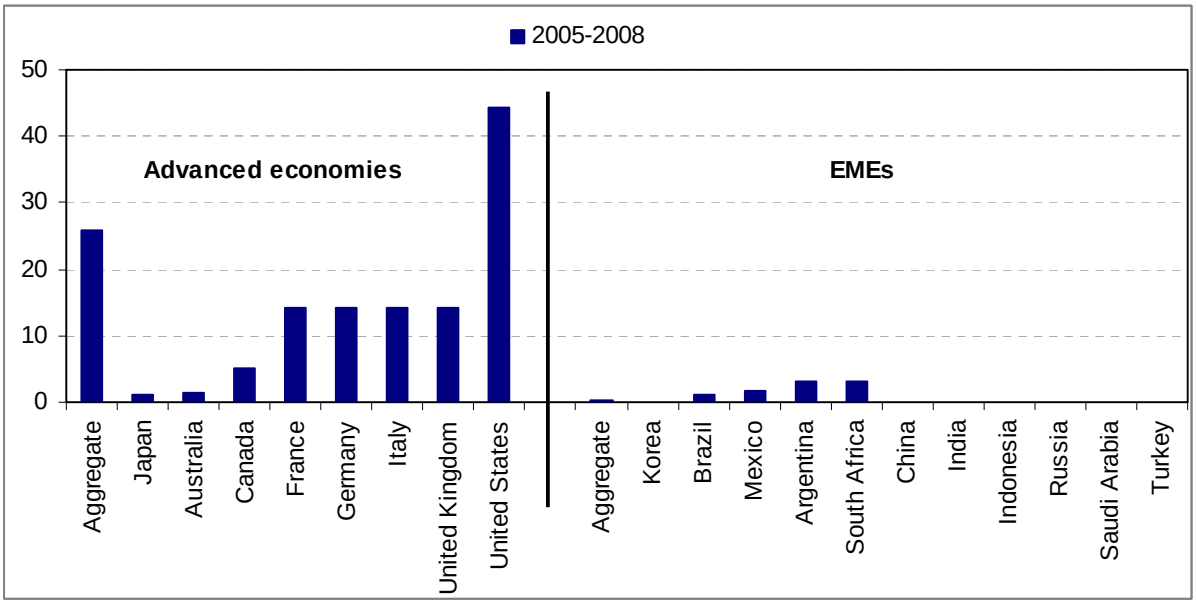


Source: World Trade Indicators 2008 and authors' calculations.

Notes: The aggregates were computed using 2008 GDP weights converted to the same currency using purchasing power parity. This indicator reflects the importance of a country's customs and other import duties, evaluated in local national currency. Calculated as the sum of total import duties divided by the sum of the value of all imports.

Countervailing duties (tariffs), which are imposed by a country to counteract subsidies given to a foreign producer, seem to be used mostly by the United States and the European Union (Figure 7). The extensive use of such duties and tariffs potentially signals a reaction to possibly "protectionist" uses of trade support policies by partner countries.[8]

Figure 7: WTO countervailing duties *(number of measures in force)*



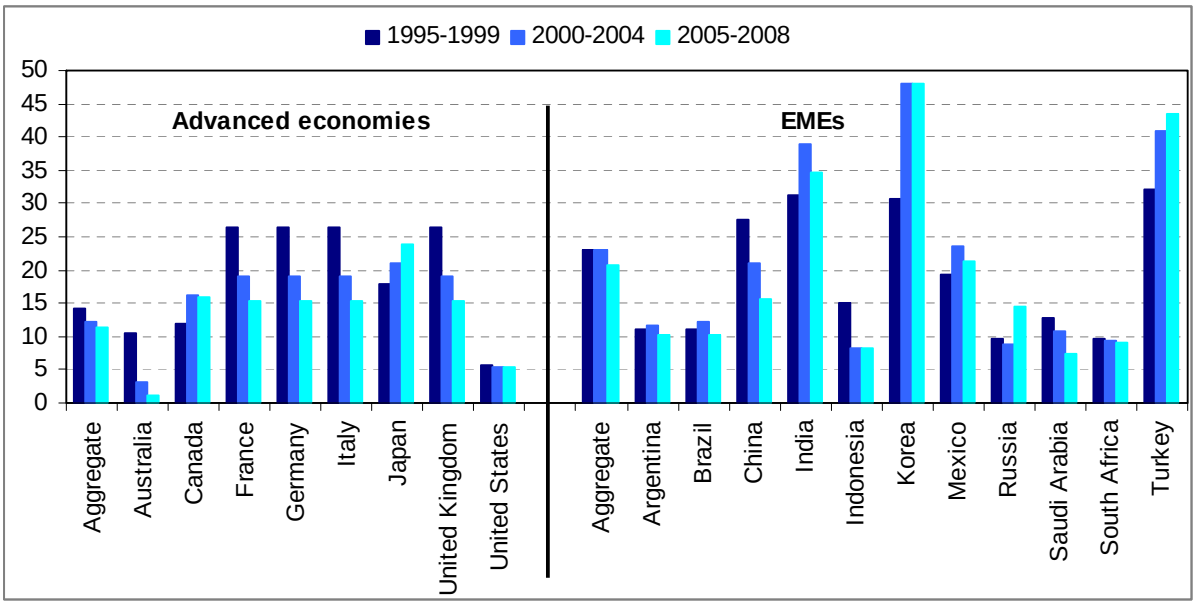
Sources: World Trade Indicators 2008 and authors' calculations.
Notes: The aggregates were computed using 2008 GDP weights converted to the same currency using purchasing power parity. This indicator reflects the number of countervailing duty measures imposed by a WTO importing member economy, usually in the form of increased duties, to offset subsidies given to producers or exporters in the exporting country. This indicator reflects measures that were in force at the time the data were collected. The figure is based on the information made available to relevant WTO committees by member economies.

Taken together, the aggregate indicators shown in the above paragraphs demonstrate that while considerable progress has been made in liberalising world trade in goods, substantial cross-country differences remain. We already noted that there is a significant difference between the overall level of tariffs in emerging market economies and the developed countries and that the level of protection in some sectors may well have increased with the changes in the geographical structure of global trade in favour of exports by emerging countries. Moreover, as progress in tariff reduction has varied considerably across sectors, the developments in average tariffs may hide important differences in the treatment of individual products. A declining average may be misleading if countries maintain very high tariffs on certain strategic products.

Accordingly, it emerges from the sectoral breakdown that tariffs on agricultural goods are higher (Figure 8) than tariffs on non-agricultural goods (Figure 9). Another important difference arises, which appears when comparing advanced economies and emerging market economies: on average, EMEs tend to have higher tariffs on imported goods than advanced countries, but the difference is perhaps more striking for non-agricultural goods, for which advanced countries have very low average tariffs.

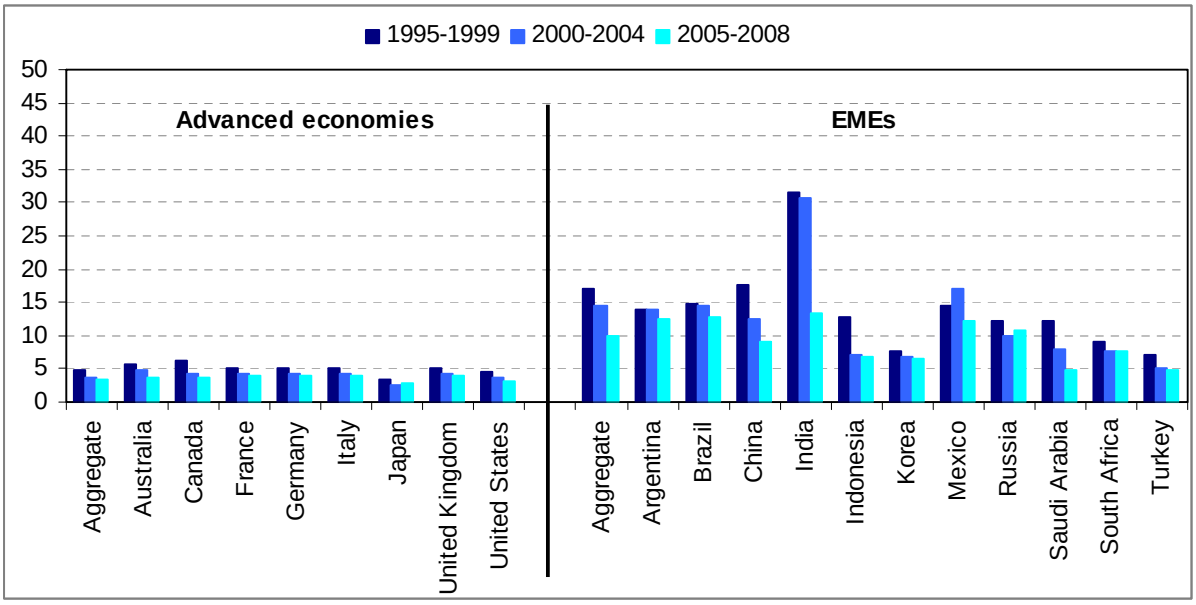
[8] A countervailing duty is imposed by an importing country, for example, when it considers that the subsidised imports may cause material injury to the domestic industry, or that they represent a threat of material injury to a domestic industry or material retardation of the establishment of such an industry in the domestic territory.

Figure 8: MFN applied tariff - simple average - agricultural goods *(percentages)*



Sources: World Trade Indicators 2008 and authors' calculations.
Notes: The aggregates were computed using 2008 GDP weights converted to the same currency using purchasing power parity. This indicator is calculated as the average of the MFN applied tariff rates (includes ad valorem and ad valorem equivalents of specific tariffs) that a country applies to its trading partners, available at HS 6-digit product level in a country's customs schedule. This indicator is disaggregated for agricultural goods and non-agricultural goods. Reported as a simple average (includes lines where there are no trade flows).

Figure 9: MFN applied tariff - simple average - non-agricultural goods *(percentages)*



Sources: World Trade Indicators 2008 and authors' calculations. Notes: See Figure 8.

However, tariffs only provide a very partial indication of the degree of protectionism. Countries are unlikely to increase tariffs by a large amount as these are capped through international agreements in the context of the World Trade Organization (WTO); instead, many recent protectionist measures are more likely to come in the form of non-tariff measures. Non-tariff barriers are very difficult to monitor and analyse as they include a wide range of requirements, which vary from one country to another. Moreover, even in those cases in which such barriers are, in principle, easy to identify – as is the case of export subsidies, which have the effect of supporting local producers at the detriment of foreign

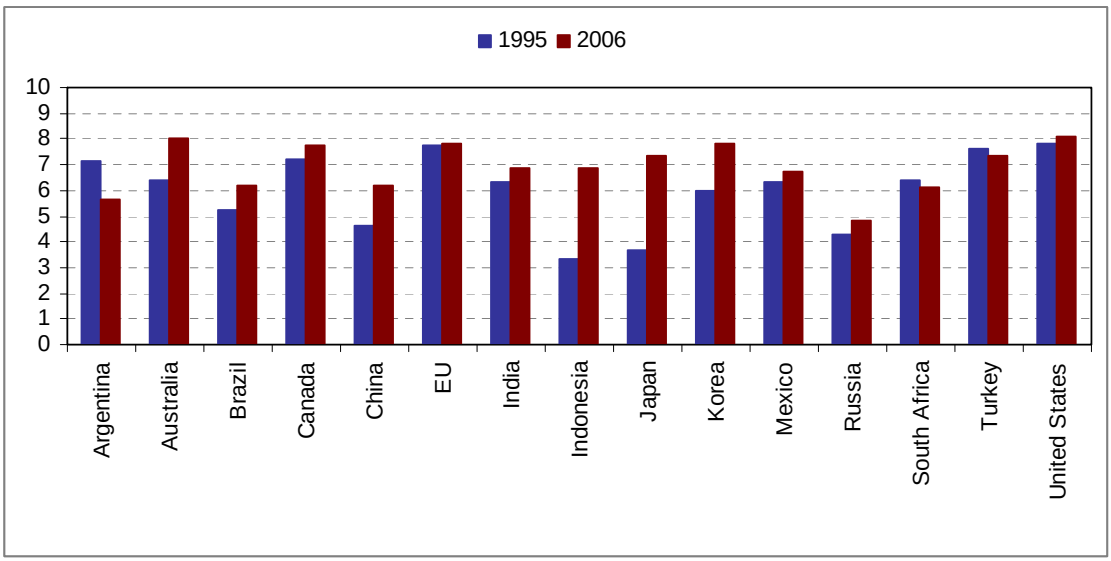
competitors – they may take very indirect forms, whose application nonetheless constitutes an obstacle to trade (such as funding for research programmes that enhance productivity).

1.1.2 Non-tariff measures

As non-tariff measures include various government policies and regulations that cannot be quantified directly, official data on this type of barriers are very scarce indeed and mainly confined to cross-country comparisons at a given point in time, which does not allow an assessment of trends over time.[9] Some private institutions provide quantified indices, such as the ratings developed and provided by the Fraser Institute.[10] Although these measures are subject to caveats, they constitute useful proxies with which to assess non-tariff barriers.

Indicators provided by the Fraser Institute suggest that non-tariff barriers have remained broadly stable in both advanced and emerging economies since 1995 (Figure 10). These indicators represent non-price and non-quantity-related import barriers, providing a summary measure of hidden import barriers that ranges between 0 and 10, whereby a higher score represents a higher degree of freedom to trade. The strength of non-tariff barriers is quantified through surveys, in which interviewees rate the extent to which they agree with the statement "In your country, tariff and non-tariff barriers significantly reduce the ability of imported goods to compete in the domestic market". On the basis of these indices, it seems that non-tariff trade barriers have been broadly stable since 2000, with major differences across countries (noticeably, this indicator suggests that regulatory measures are stronger in EMEs than in advanced economies).

Figure 10: Index of regulatory trade barriers *(an increase indicates lower trade barriers)*



Sources: Fraser Institute and *authors' calculations*.

Notes: For detailed information on this index, see "Economic Freedom of the World 2008 Annual Report", http://www.freetheworld.com/release.html. The values provided for the EU were computed as a weighted average of the 27 Member States, using GDP weights converted to the same currency using purchasing power parity. They are therefore not directly comparable with the other countries presented in this chart. 1995 data are not available for Bulgaria (2000), Cyprus (2003), Estonia (2000), Latvia (2000), Lithuania (2000), Malta (2002), Romania (2000) and Slovenia (2000).

[9] In recent years the OECD has undertaken detailed studies on trade barriers through time and logistics. See, for example, Kyvik Nordås (2006). These studies provide insightful comparisons across countries, but they do not provide a perspective on the development of such barriers over time.

[10] See "Economic Freedom of the World 2008 Annual Report" for more detail on the several ratings.

1.1.3 Estimated indicators of trade frictions

Trade frictions can also be estimated. We do so over the period 2001-04 (a full set of more recent data was not available at the time of estimation) and by means of a gravity equation computed following standard procedures and using bilateral trade data at the sectoral level.[11] More precisely, we estimate the gravity regression having the following specification.

$$\ln\left(EXP_s^{ij}\right) = EX_i + IM_j + \delta_s \ln(dist\,ance^{ij}) + ...$$
$$... + \beta^2 Border^{ij} + \lambda\, Language^{ij} Border^{ij} + Other^{ij} + Dummy^{time} + e^{12}$$

Accordingly, log-bilateral exports are regressed on a full set of importer and exporter country dummies, on bilateral distance and a set of additional trade frictions. The variable "distance" measures the percentage fall per percentage increase in distance and proxies transport costs. The variable "border effect" measures the additional downward step when crossing national borders and approximates the trade-disturbing power of tariffs and other man-made trade frictions. The variable "language" corrects the border effect for those cases where two countries share a common language. The reason is that sharing a language mitigates a number of man-made barriers, in particular those linked to legislation requiring products to have information in the local language. A set of additional controls is included in the specification, including dummies for geographical and historical features that might affect trade (identified in the equation by the term "other"). The accessibility of a county's domestic market is therefore measured as the exponential of the sum of all the above-mentioned variables. It is also clear from the specification that the coefficient specific to each component can also be computed.

As a result, the estimated trade frictions infer from trade flows the size of the obstacles that hamper trade among the countries analysed. The overall degree of a country's accessibility to foreign imports (mathematically the inverse of trade friction coefficients) is reported in Figure 11 and Table 1. In particular, Table 1, first column, reports the results in terms of relative percentage difference between the country of interest and the country with the lowest barriers in the sample (i.e. Belgium). For example, access to the domestic market of the Netherlands is only slightly more restricted than access to the Belgian market (17%). By contrast, the US market is twice less accessible.

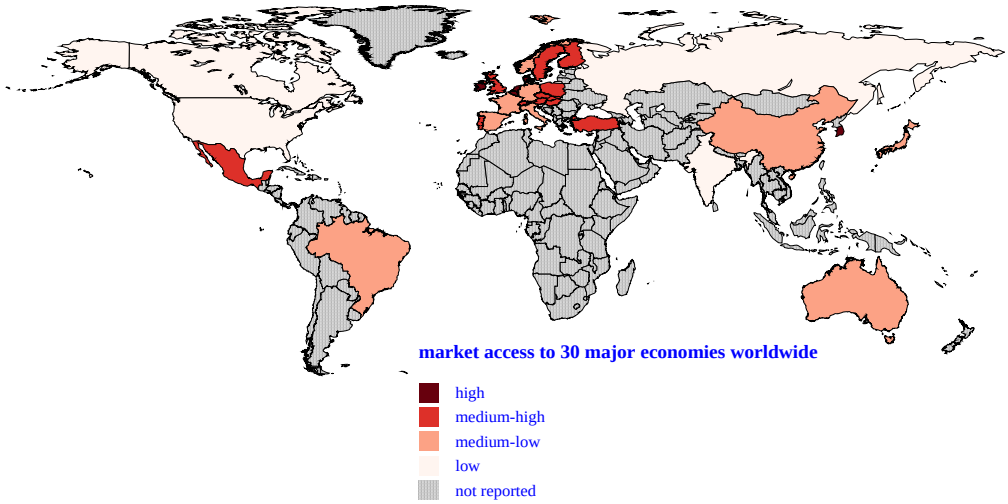
Interestingly, Table 1 also reports a sub-component of the estimated barriers, namely man-made protection, which we denote under the heading "border effect" (the methodology described above provides the mean of disentangling natural trade barriers, such as distance from man-made barriers). Differences in the border effect across main trading countries appear overall to be relatively small in absolute terms. For 21 out of 30 major trading countries,[12] the border effect lies within two standard deviations from the overall average. Nevertheless, on average, in the period 2001-04 smaller countries turned out to be relatively more accessible than larger counterparts. It emerges that, on average in the period 2001-04, exporters of manufacturing encountered the highest man-made barriers in accessing the Canadian, Indian, Russian and US markets. By contrast, Belgium, Denmark, the Republic of Korea

[11] The method is explained in detail in Head and Mayer (2004a) and referred to in Head and Mayer (2004b).

[12] These include Australia, Austria, Belgium, Brazil, Canada, China, the Czech Republic, Denmark, Finland, France, Germany, Hungary, India, Ireland, Italy, Japan, Korea, Mexico, the Netherlands, Norway, Poland, Portugal, Russia, Slovakia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States.

and the Netherlands seemed to have a regulatory environment that is relatively friendly to foreign manufacturing imports. These results should however be interpreted with caution, as the trade friction index can reflect a variety of factors (in particular, the control variables may imperfectly take into account some other obstacles to trade).

Figure 11: Market access to the domestic market of 30 large countries (total manufacturing)



Source: Author's calculations.

Table 1: Estimated man-made and overall trade frictions for 30 large trading countries

Country	Openness to foreign manufactured imports relative to most open country (percentage)	Border effect
Belgium	Benchmark=100	-0.40
Netherlands	17	-0.40
Denmark	57	-0.80
Korea Rep.	64	-1.14
Ireland	69	-1.19
Hungary	72	-1.71
United Kingdom	76	-1.97
Switzerland	78	-1.97
Sweden	80	-2.03
Austria	82	-2.08
Slovakia	82	-2.24
Poland	85	-2.25
Finland	85	-2.25
Portugal	86	-2.31
Mexico	87	-2.33
Czech Republic	88	-2.38
Turkey	90	-2.54
Germany	92	-2.71
Japan	93	-2.82
Australia	93	-2.99
Italy	94	-3.02
Norway	94	-3.06
France	96	-3.06
Spain	97	-3.10
Brazil	97	-3.14
China	98	-3.25
India	98	-3.68
United States	98	-3.78
Russia	98	-4.19
Canada	99	-4.46

Source: Authors' calculations.
Note: Countries' openness to foreign goods is measured relative to the most open importer (Belgium) in the sample.

1.2 Trade in services

Barriers seem to play a significant role in limiting trade in services and the efficiency of the economy as a whole. While estimated barriers vary on the basis of their nature, as well as on that of the theoretical approach and data used in studies, levels of protection are nonetheless usually higher and more pervasive in services trade than in goods trade. For a start, the nature of barriers to trade in services differs from that of barriers to trade in goods in one important respect. Because services delivery often takes place not across the border but within countries, tariffs cannot ensure effective trade protection. Thus, services trade barriers primarily take the form of government regulations (e.g.

provisions on licensing or on technical standards). Like most non-tariff barriers, "beyond-the-border regulation" is not only difficult to quantify but also easy to upgrade, as it usually affects domestic and foreign service providers indistinctively, and may sometimes be linked to wider public policy objectives (i.e. addressing market failures or pursuing objectives of public interest).

As a result, services are the area on which most economic regulation is concentrated, with effects that limit access to services markets not only for foreign but also for new domestic entrants. By contrast, barriers to trade in goods often affect primarily foreign exporters. Another important aspect to bear in mind is that, contrary to barriers on goods, barriers on services may also obstruct the mobility of people and capital, leading to greater knock-on effects for the economy as a whole. Finally, the term "services" encompasses a heterogeneous group of activities spanning banking, insurance, transportation, telecommunications, consulting, legal services, retail and wholesale trade, and several others. Part of this activity plays the important infrastructural role of facilitating transactions, providing the economic function of intermediation either through time (banking, insurance, legal) or space (telecommunications, transportation, retailing, wholesaling), which, when impeded, can crucially impair economic efficiency and growth.

Notwithstanding the potentially large losses associated with protecting services trade, there is a public interest in curbing barriers to trade in services when these increase costs (e.g. limiting the scope for outsourcing abroad), thereby distorting market conditions, or if they have the effect of reducing competition (e.g. if they limit the number of producers in a given industry, thereby creating secure income for incumbent firms while hampering productivity growth and preventing prices from converging to their efficiency level).

A study by the OECD (see Conway and Nicoletti (2006)) has quantified, at the level of individual sectors, regulations that curb efficiency-enhancing competition. The resulting indicators, which cover regulations in 21 OECD countries for the period 1975-2003, suggest that overall anti-competitive regulation in services dropped considerably from 1998 for all OECD countries considered. A multi-year project started by the Australian Productivity Commission and the Australian National University goes some steps further.[13] While confirming that services have become less protected over time, it also indicates that there is still considerable scope for additional market liberalisation and allows further definition of the areas of major concern. It allows for a quantification of restrictiveness in trade in services that distinguishes measures applying to domestic and foreign suppliers alike (non-discriminatory measures) from measures that mainly restrict entry into the domestic market by foreign suppliers (discriminatory measures), while also extending the analysis to non-OECD countries. According to these indicators, the European Union and the United States appear to have relatively lower levels of non-discriminatory and higher levels of discriminatory measures, compared to other countries. In adition, regulation in the European Union remains somewhat tighter than in the United States. By contrast, Japan appears much more restrictive in terms of non-discriminatory measures, but with relatively lower levels of discriminatory barriers against foreign providers. At the same time, regulation in south-east Asian countries is by far the most discriminatory against the entry of foreign providers of services into the domestic markets. Meanwhile, sector-specific indices show that barriers are considerably higher in the European Union than in the United States in important services sectors with the infrastructural role of facilitating transactions, such as legal services and distribution.

[13] For a discussion on the methodology, see Dee et al. (2003) and Dee (2005).

In conclusion, although progress has been made in many countries and in some specific sectors, such as telecommunications, others remain far from well integrated, warranting further efforts in the direction of a visible and robust process of services trade liberalisation. One sector of particular importance is the free movement of temporary workers, as this is used by countries to tap technically qualified skills in short supply, to open new markets and to accelerate innovation and increase competitiveness for domestic companies.

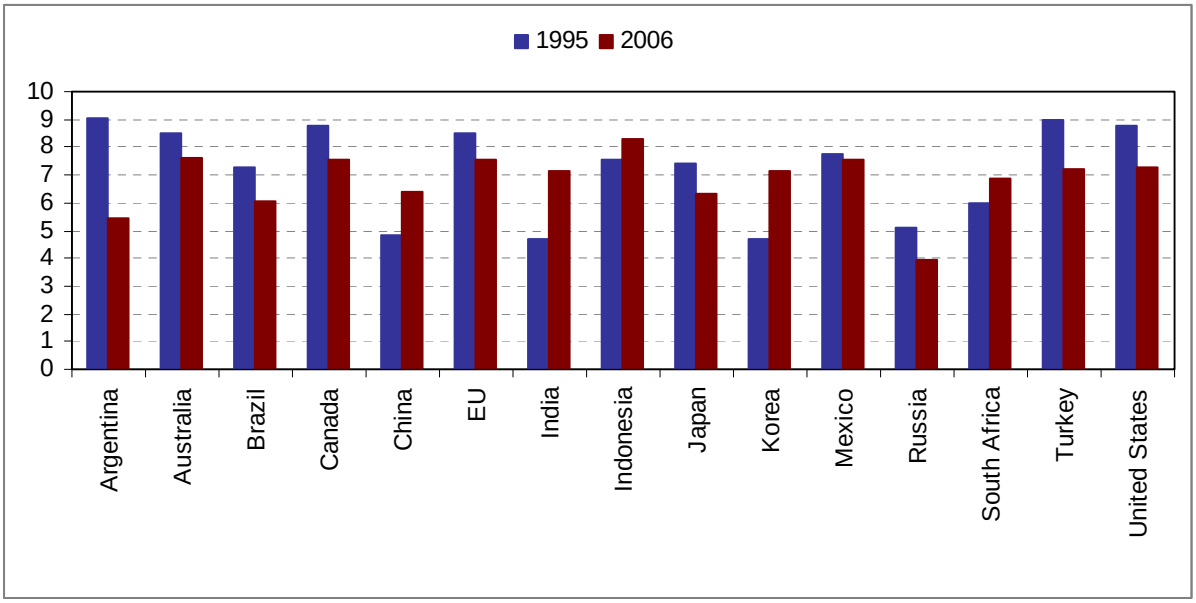
1.3 Financial flows

While protectionism on trade generally receives most of the attention, the issue of financial protectionism should not be neglected. The degree of financial protectionism can be assessed through different criteria, such as legal restrictions on cross-border capital flows. This includes, for instance, controls on inflows and outflows, controls on quantities and prices, and restrictions on foreign equity holdings. The literature distinguishes between de jure and de facto measures (see, for example, Kose et al. (2006)). The former use narrative descriptions to give a quantitative measure of financial openness, based, in particular, on IMF reports.[14] The latter, by contrast, include price-based and quantity-based measures of financial integration and are founded on the notion that, regardless of the volume and direction of flows, full integration of capital markets should be reflected in common prices for similar financial instruments across national borders. Several papers have proposed such measures; see, in particular, Chinn and Ito (2005), Quinn (2003), Mody and Murshid (2005), Miniane (2004) and Edwards (2005). These two types of measures do not always coincide because legal restrictions are not always implemented in practice (in which case de jure measures are more restrictive than de facto measures) or because agents may decide not to invest in a given country even if they have been granted the right to do so (in which case the de facto measures will be more restrictive). For example, despite capital controls, China has increasingly received large amounts of capital inflows in recent years.

As regards de jure measures, two main indices can be used in the present context. The first is an index of capital market access for both non-residents and residents (Figure 12). The second is the Chinn-Ito index on the degree of capital account openness (Figure 13). These indices suggest that non-tariff barriers tend to be higher in emerging economies than in advanced economies. This can be seen more clearly in the Chinn-Ito index, which shows a larger gap between the BRICs and the advanced economies.

[14] IMF Annual Report on Exchange Arrangements and Exchange Restrictions.

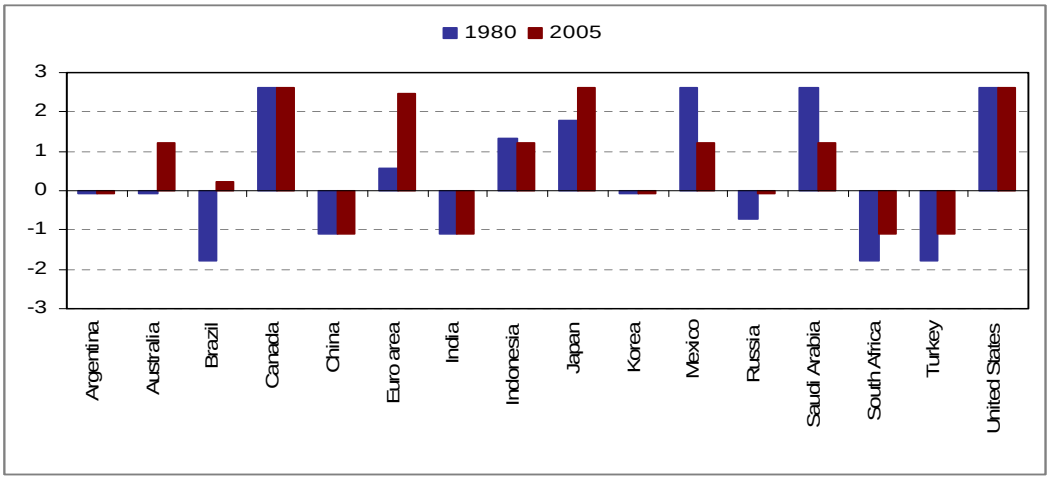
Figure 12: Index of foreign capital market restrictions



Source: Fraser Institute and authors' calculations.

Notes: An increase indicates lower barriers. For detailed information on this index, see "Economic Freedom of the World 2008 Annual Report", http://www.freetheworld.com/release.html. The values provided for the EU were computed as a weighted average of the 27 Member States, using GDP weights converted to the same currency using purchasing power parity. They are therefore not directly comparable with the other countries presented in this chart. 1995 data are not available for Bulgaria (2000), Cyprus (2003), Estonia (2000), Latvia (2000), Lithuania (2000), Malta (2002), Romania (2000) and Slovenia (2000).

Figure 13: Index of foreign capital account openness



Source: Chinn and Ito (2005).

Notes: An increase indicates lower barriers. The value provided for the euro area was computed as a weighted average of the individual countries, using GDP weights converted to the same currency using purchasing power parity. They are therefore not directly comparable with the other countries presented in this chart. For the calculation, the euro area consists of Austria, Belgium, Cyprus, Finland, France, Germany, Greece, Ireland, Italy, Malta, the Netherlands, Portugal and Spain. 1980 data are not available for China (1978), the Netherlands (1981) and Russia (1998).

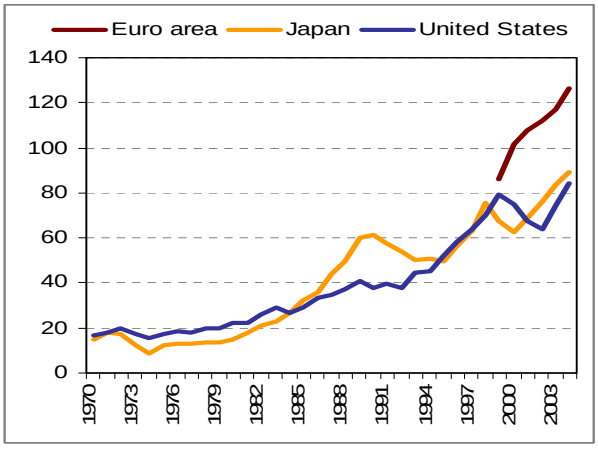
Turning to the de facto measures of capital flows, one can see, in particular, a significant increase in the level of (gross) foreign assets expressed as percentage of GDP since 1990 (see Figure 14; a similar pattern emerges for gross liabilities at the global level, although significant differences can, of course, be noted across countries, depending on whether they have large negative or positive net assets; see

lower panel). The change in assets and liabilities does not completely match the cumulated sum of flows, owing to valuation effects. Although the magnitude of the increase may be different on the basis of alternative measures, and in spite of differences across countries, there has been a clear trend since the mid-1990s towards markedly higher cross-border capital flows. In addition, financial liberalisation has taken place at a rapid pace in certain regions; this is particularly the case for the euro area.[15]

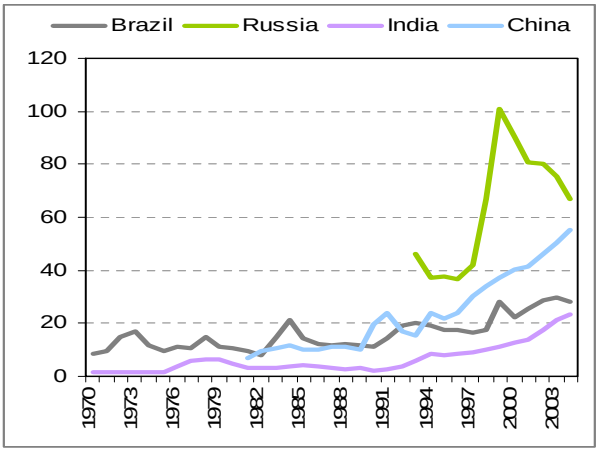
Figure 14: Total foreign assets and liabilities as a percentage of GDP
Percentage

Assets

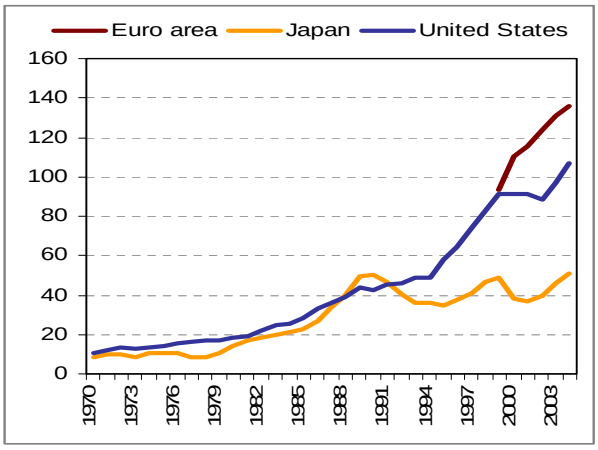
Panel A: Selected advanced economies

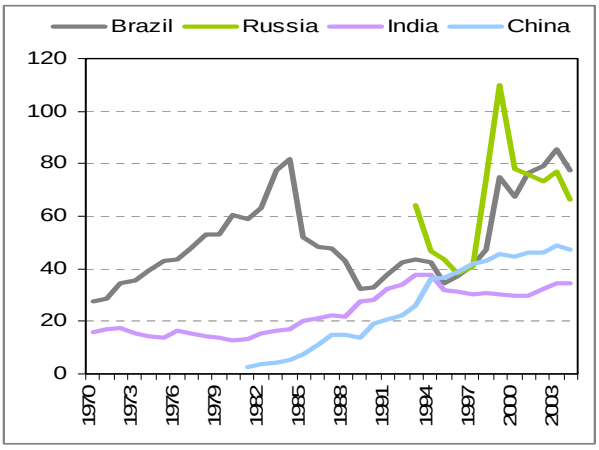


Panel B: Selected emerging market economies



Liabilities





Source: Lane and Milesi-Ferretti (2006).

However, some signs of a reversal in the trend towards more open financial markets are possibly coming from the area of direct investment abroad. The UNCTAD World Investment Report 2008 shows that in 2007 as many as 24% of all regulatory changes made were unfavourable to multinational enterprises (Table 2). By contrast, unfavourable changes were only 5% of the total in the decade 1992-2002 and 12% in the period 2003-04. While the majority of the changes are still overwhelmingly

[15] See *Financial integration in Europe*, ECB, April 2008.

favourable (76%), the trend is somewhat worrying. It should be noted that the countries that implemented FDI-restrictive measures in the period 2005-07 account for 40% of overall FDI flows. These figures are impressive and convincingly demonstrate that a change is occurring in an area of particular public sensitivity.

Table 2: National regulatory changes affecting cross-border investment, 1992-2007

	Number of countries that introduced change	Number of regulatory changes	More favourable changes (%)	Less favourable changes (%)
1992	43	77	100%	0%
1993	56	100	99%	1%
1994	49	110	98%	2%
1995	63	112	95%	5%
1996	66	114	86%	14%
1997	76	150	89%	11%
1998	60	145	94%	6%
1999	65	139	94%	6%
2000	70	150	98%	2%
2001	71	207	93%	7%
2002	72	246	95%	5%
2003	82	242	90%	10%
2004	103	270	87%	13%
2005	92	203	80%	20%
2006	91	177	80%	20%
2007	58	98	76%	24%

Source: UNCTAD, World Investment Report 2008.

The evidence presented in Section 2 of the paper suggests that the past two decades have witnessed a broad trend towards less protection of goods, services and financial markets. Yet, this process has not been homogeneous across countries, and some – possibly strategic – sectors and areas, such as agriculture and some key manufacturing industries and services, still have high levels of protection. Moreover, in some areas, such as direct investment abroad, there are signs of a return to more protection.

2 Are we at a turning point? The rise in protectionist pressures and incipient signs of new protectionism

While the indicators presented in Section 2 are useful to assess developments in the medium to long term, they are less convenient for analysing short-term developments or for developing a forward-looking perspective. It is not easy to gauge the full extent of recent or contemporaneous initiatives towards more protection. The data needed to produce such an assessment usually become available with considerable delay and many forms of non-tariff barriers or murkier forms of protection are in any case very difficult to identify and quantify. Hence, a more informal assessment based on a wider range of indicators becomes necessary, especially since protectionist pressures may have heightened as a result of the crisis.

In this section, we therefore turn to such measures that we classify under the general heading of "protectionist pressures". The rise of protectionist pressures can be gauged through the state of progress of free trade negotiations and from the level of public support for open markets and globalisation. This section therefore starts by taking stock of the recent progress made in multilateral and bilateral trade negotiations. Next, it provides evidence of people's changing attitude towards globalisation and protectionism, using mostly survey data.

2.1 The slowing pace of trade negotiations

The free trade agenda is languishing. Progress in trade negotiations (or the lack thereof) is an indirect indicator that reveals the degree of protectionist pressures on governments. In this respect, significant delays in the completion of international trade agreements can be interpreted as a worrying sign of rising protectionist pressures.

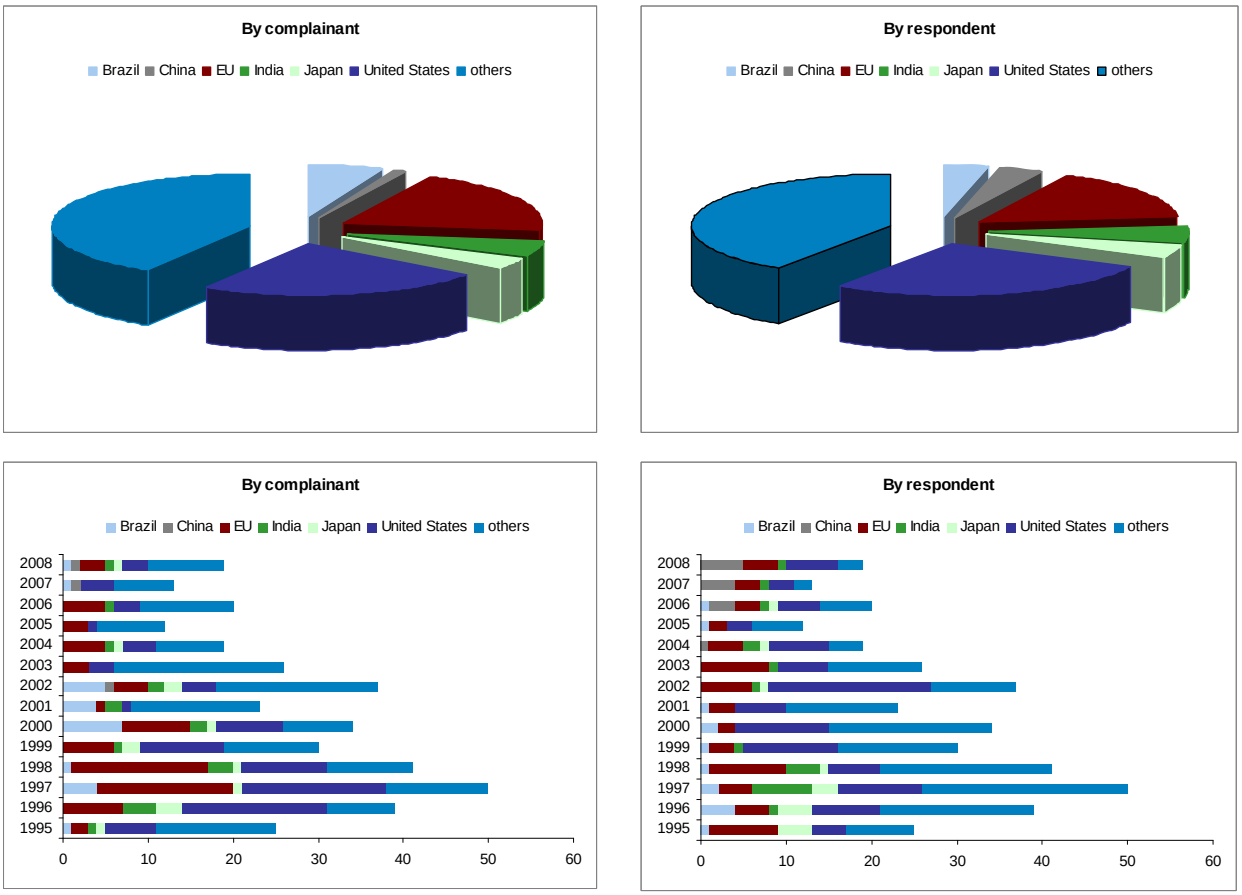
The Doha round of WTO trade negotiations, which aims at liberalising agriculture and services and at boosting trade and development in poor countries, has been the longest ever round of multilateral trade negotiations. Having begun in 2001, it was initially scheduled to be completed by 1 January 2005. Burdened by a jungle of loopholes and exemptions codified during many years of negotiations, it was suspended indefinitely in July 2006; negotiations resumed thereafter, but were again halted in July 2008, when India and the United States failed to agree about the extent to which poor countries should be allowed to be shielded from competition. To date, it remains unclear whether the parties will move towards the concessions necessary to strike an agreement. On the positive side, the danger of the negotiations failing has been acknowledged at international policy summits, as reflected, for instance, in the final statement of the G20 summit that took place in Washington D.C. on 15 November 2008 (especially in paragraph 13, in which the participants state, "within the next 12 months, we will refrain from raising new barriers to investment or to trade in goods and services, imposing new export restrictions, or implementing World Trade Organization (WTO) inconsistent measures to stimulate exports. Further, we shall strive to reach agreement this year on modalities that leads to a successful conclusion to the WTO's Doha Development Agenda with an ambitious and balanced outcome.") However, such declarations have so far remained unfulfilled. After the end-2008 deadline elapsed, new pledges to reject protectionism and calls for a quick conclusion of the stalled Doha round of talks were made at the G20 Meeting in London on 2 April 2009 and by the Group of Eight (G8) at the 8 July 2009 meeting in L'Aquila (Italy). In an official statement, the G8 leaders declared, "We reconfirm our commitment to keep markets open and free and to reject protectionism of any kind. In difficult times we must avoid past mistakes of protectionist policies", and called for "a rapid, ambitious, balanced and comprehensive conclusion of the Doha Development Agenda on the basis of progress already made" in WTO talks. Although considerable progress has been made already, as suggested in Section 2 (tariffs and non-tariff barriers on manufactured goods have decreased markedly in the past decades), the negative signal sent by the repeated failures to complete the Doha Round is significant enough to be taken seriously as signal of generally weak public support for free trade.

The number of disputes brought to the WTO since 1995 (Figure 15) has often been cited as an indirect indication of protectionist pressures. However, one important caveat with this measure is that it can be interpreted in two ways: an increase could reveal higher protectionist pressures, but also increased confidence in the legal support provided by the WTO. It is noticeable that in the two years following the establishment of the WTO, the number of cases per year increased markedly, which could be

interpreted as a learning phase. Thereafter and up to 2007, the number of disputes followed a downward trend, excluding a peak at around 50 submissions (of which 20 by the EU, 17 by the United States and 4 by the BRICs) in 2002 and a temporary increase in 2006. Although the year 2008 marked a substantial increase relative to the previous year, the number of disputes in 2008 remains lower than in all the previous years except 2005 and 2007. Therefore, the increase in antidumping initiations in 2008 relative to 2007 is not necessarily attributable to the economic crisis.

Figure 15: Number of disputes at the WTO

(percentages (upper panel) and numbers (lower panel))



Source: WTO.

Note: Disputes are classified by the year of their submission.

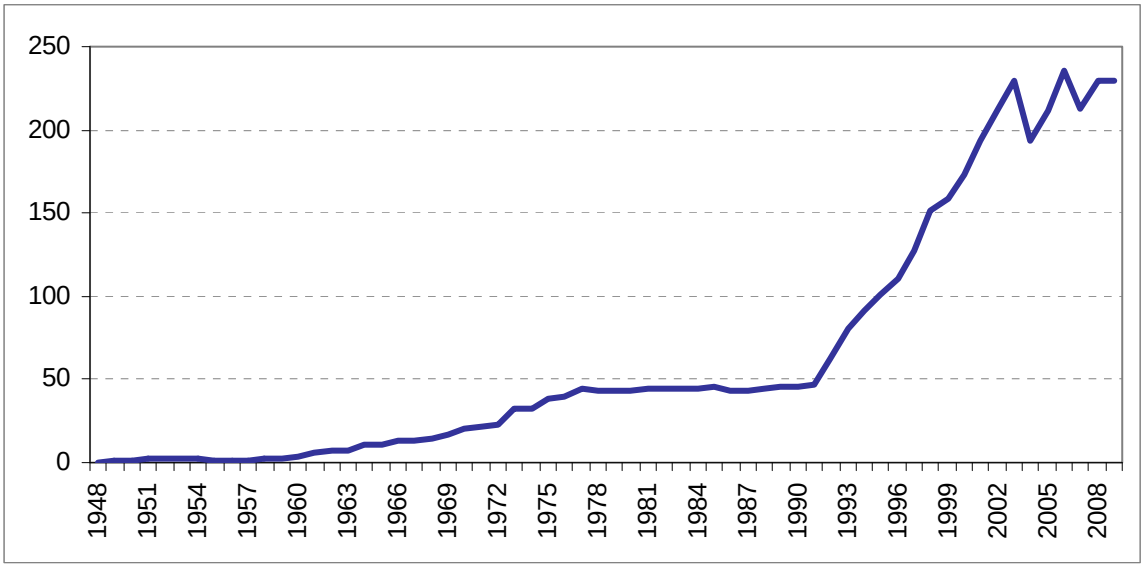
Another indirect measure of the support for free trade is provided by the proliferation of regional trade arrangements (RTAs) over time, with about 421 RTAs notified to the GATT/WTO up to December 2008, and 230 in force (Figure 16). Nonetheless, it is difficult to assess whether the increasing popularity of RTAs represents a sign of support for free trade or rather indicates lack of willingness to increase commitment in the framework of the multilateral trading system. While promoting free trade, such agreements do so at a regional or bilateral level, rather than at the global level, and can therefore be seen either as an alternative path towards free global trade or as a stumbling block (see, for example, Limao (2006), and Limao and Karacavaoli (2008) for recent discussions). Their increase should therefore be interpreted with caution because the literature remains divided with regard to the effect of free trade arrangements and, in particular, whether they complement or substitute the WTO-

led process (see, for example, Baldwin (2006) as a proponent of the view that RTAs can be viewed as building blocks of globalisation).

Their proliferation at times when the multilateral trade negotiations languished may indicate a public preference for such smaller-scale agreements. Interestingly, their surge, which had continued unabated since the early 1990s, seems to have halted recently. A series of important free trade agreements, such as those negotiated by the last US Administration with Columbia, South Korea and Panama, remain pending. The stalling of both multilateral and regional trade negotiations is a further indication that public support for free trade recently appears increasingly muted.

Figure 16: Number of regional trade arrangements

(cumulated over time)



Sources: WTO Secretariat and authors' calculations.

Note: Arrangements are classified by the year of their entry into force.

2.2 Changing attitudes towards globalisation

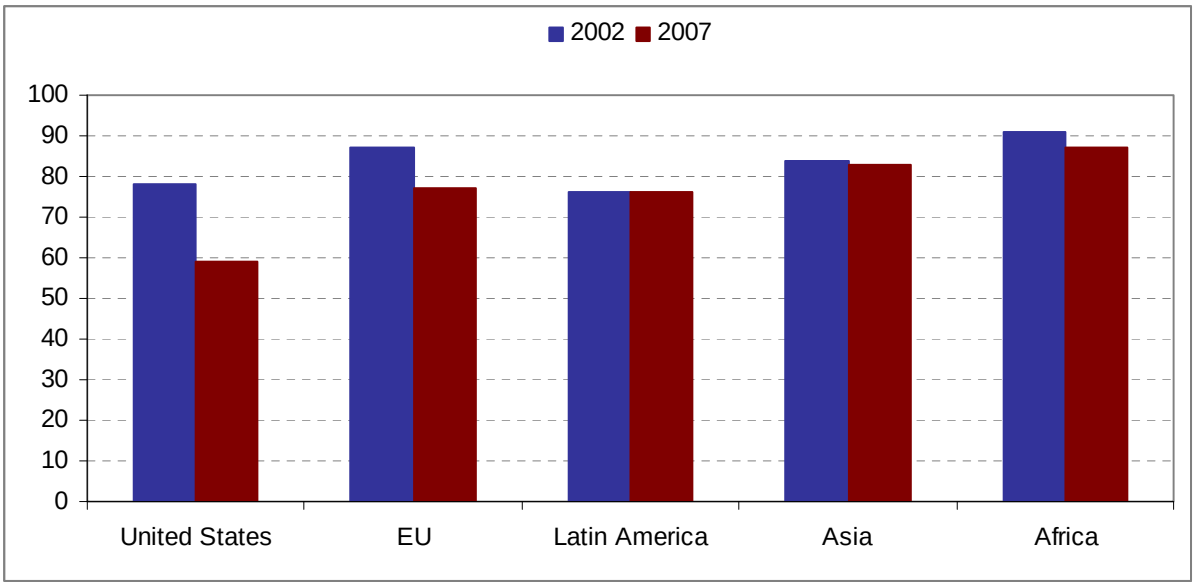
Survey data provide a useful indicator of the general perception of globalisation, which, compared with the indicators presented in Section 2, is more timely and perhaps more forward looking, to the extent that it captures ongoing trends. In spite of this undeniable advantage, one potential drawback is that surveys are carried out using a small sample of the population and that they are very question-specific. Interestingly, some surveys[16] show support for trade globalisation to be falling in the EU and the United States, but to be increasing in emerging market economies and developing countries. In fact, support for trade globalisation seems to be high in emerging market economies and developing countries, particularly in Asia and Africa, with nearly 90% of the population agreeing with the statement that trade with other countries is good (Figure 17). This result may not be surprising, given that trade liberalisation should especially benefit poorer countries.

[16] The Pew Global Attitudes Project (October 2007), "World Publics Welcome Global Trade – But Not Immigration", http://pewglobal.org/reports/display.php?ReportID=258.

A recent poll found that in the United States the majority of the population (60% of respondents) considered that globalisation, "especially the increasing connections of their country's economy with others around the world" was mostly "good" (see World Public Opinion (2007)[17]). Regarding the rest of the world, globalisation finds wide support in Asia's rising economic powers, such as China, South Korea or Thailand (with 87%, 86% and 75% respectively of their populations supporting globalisation, while this support is somewhat lower in India, at 54%). In the EU, the perception of globalisation varies considerably across countries. It is lower, in particular, among some of the countries that have joined the EU since 2004.

Figure 17: Support for globalisation in selected regions of the world

(percentage of positive answers to the question "Is trade with other countries good?")



Sources: The Pew Global Attitudes Project (2007) and authors' calculations.

Note: Figures may not add up due to rounding.

1) EU: arithmetic average of Germany, France, Italy and the United Kingdom.

2) Latin America: arithmetic average of Argentina, Bolivia, Brazil, Mexico, Peru and Venezuela.

3) Asia: arithmetic average of Bangladesh, China, India, Indonesia, Japan, Korea and Pakistan.

4) Africa: arithmetic average of Côte d'Ivoire, Ghana, Kenya, Nigeria, South Africa, Tanzania and Uganda.

Taking the EU27 as a whole, opinion is almost evenly split between supporters and opponents of globalisation.[18] In 2008, 39% of EU citizens considered globalisation "a good opportunity for national companies thanks to the opening-up of markets", while 39% considered it a "threat to employment and national companies" and 18% responded "don't know". There are marked differences across Member States, however.

[17] The Chicago Council on Global Affairs, World Public Opinion (2007), http://www.thechicagocouncil.org/UserFiles/File/POS_Topline%20Reports/POS%202007_Global%20Issues/WPO_07%20full%20report.pdf.

[18] See European Commission, "Eurobarometer 69, the Europeans and globalisation", November 2008, p. 31. http://ec.europa.eu/public_opinion/archives/eb/eb69/eb69_globalisation_en.pdf

Beyond these results, the political economy of trade liberalisation and protectionism appears to play an important role. Indeed, the perception of protectionism varies considerably across segments of the population within countries. In particular, support for globalisation is strongest among highly skilled workers in mature economies (see, for example, O'Rourke and Sinnott (2001); Mayda and Rodrik (2005); and Scheve and Slaughter (2006)). Meanwhile, according to some studies, exposure to international competition seems to play less of a role. Individuals working in sectors open to international competition – and with a comparative advantage – are not much more likely to support or oppose trade liberalisation than those working in sectors sheltered from international competition (see Mayda and Rodrik (2005)). Other studies find that sector considerations do not play a significant role (Scheve and Slaughter (2006)). Arguably, individuals working in sectors open to international competition – but with a comparative disadvantage – are slightly more likely to oppose trade liberalisation than those working in sheltered sectors.

Faltering support for globalisation might induce governments to reverse the globalisation trend that has taken place in the past few decades. Evidence for this is presented in a recent report by the Council on Foreign Relations, which reviewed recent projects to (re)introduce regulations on foreign direct investment in a group of 11 countries. Although not all of these attempts will lead to restrictions, this trend suggests that there are ongoing pressures to restrict investment flows across countries, a process that the authors of the report refer to as "protectionist drift".

Finally, broad political and societal concerns about the impact of free trade can be an important source of protectionist pressure. These concerns arise from the fact that globalisation is perceived to contribute to widening wage inequalities in developed countries. This issue is clearly complex, as reviewed in a recent IMF World Economic Outlook article.[19] Overall, the article concludes that trade globalisation does not increase inequality, but there are also caveats with such findings due to methodological and data issues. One indication of concern about free trade relates to official programmes providing personalised support (income support and job retraining) for workers who lose their jobs as a result of trade liberalisation, which have been adopted by a number of countries. Such programmes have a long tradition in the United States. Trade Adjustment Assistance (TAA) programmes were first introduced in 1962 at the start of the Kennedy round of discussions on trade liberalisation. Expenditure under this kind of programme has increased steadily over recent years and was budgeted at around USD 650 million in fiscal year 2007, compared with around USD 100 million in the early 1990s. In 2006, the EU established a broadly similar programme, the European Globalisation Adjustment Fund (EGF), which will provide funds of up to €500 million per year over the period 2007-13.[20]

2.3 Incipient evidence of increased protection

As discussed in earlier paragraphs, quantifying protectionism remains a challenge, in particular when it takes the form of indirect, non-tariff barriers. To overcome the difficulties of fully capturing changes in protectionism, a new paper endeavours to address the question by investigating how much of the recent trade collapse is due to a rise in trade costs (see Jacks et al. (2009)). Based on a structural model

[19] Jacks et al., "Globalization and Inequality", *IMF World Economic Outlook*, October 2007. See also Guscina (2006) for a study of the impact of globalisation on the share of labour in national income.

[20] Information on the European Globalisation Adjustment Fund can be found on http://ec.europa.eu/employment_social/egf/index_en.html.

of bilateral trade, the authors are able to measure the relative contribution of increasing trade costs, a proxy for protectionism and declining output. They find that both factors explain the recent trade bust. However, they also find that the increase in trade costs today is as large as it was in 1929 despite the limited increase in "measurable" protection.

Since the intensification of the crisis in September 2008, a non-negligible number of protectionist measures have been announced or implemented worldwide. While it is difficult to provide an exhaustive list of all the measures taken, the Global Trade Alert, an initiative of a network of five independent research institutes across the world, monitors and publicly reports many state measures that have been taken during the current global downturn and are judged likely to affect foreign commerce.[21] Despite the repeated no-protectionism pledges, according to the Global Trade Alert, in the 14 months from November 2008 to December 2009, 390 trade-damaging state measures were announced or implemented by G20 members, plus several more by non-G20 members (see Table 3). Over the same period of time, the G20 passed only 56 measures that benefited importers.[22] Notable examples of trade-damaging measures include the following. First, some countries applied export subsidies to goods of strategic importance, while others (mostly developed countries) removed limits to state purchases of agricultural products. Second, a number of developing and industrialised countries alike channelled increasing state aid to a number of services sectors and manufacturing industries. Third, increases in the initiation of trade-remedy investigations, particularly by emerging economies in the case of antidumping and safeguarding measures, and by developed countries in the case of countervailing measures, have emerged along with cases of increases in tariffs and the introduction of new non-tariff measures (such as non-automatic import licences). Finally, there has been a general trend towards stricter application of trade regulations in some countries and of slower customs procedures and additional procedural requirements in the administration of existing trade measures in others.

[21] The Global Trade Alert is an independent source of real-time information on state measures taken during the current global economic downturn that are likely to discriminate against foreign commerce. The GTA is coordinated by the Centre for Economic Policy Research (CEPR), under the direction of Professor Simon Evenett, Co-Director of CEPR's international trade programme, and co-funded by the World Bank as well as by US and Canadian public sources. It draws upon expertise and analysis from seven independent research institutions around the world. The internet address of the Global Trade Initiative is http://www.globaltradealert.org/

[22] Many of these trade liberalisation measures have involved facilitating direct investment and lowering tariffs on non-finished goods.

Table 3: State measures taken during the global downturn (November 2008 to December 2009) and likely to affect foreign trade

	Number of measures taken (1) + (2)	Trade-liberalising or protectionist neutral measures (1)	**Protectionist measures (already implemented or announced) (2)**	Number of sectors affected by implemented protectionist measures (3)	Number of trading partners affected by implemented protectionist measures (4)
G8	207	21	**186**	51	179
G20	446	56	**390**	58	196
of which:					
Brazil	32	10	**22**	11	34
China	27	3	**24**	23	138
Korea	0	0	**0**	0	0
India	51	5	**46**	14	141
Japan	10	0	**10**	9	98
Mexico	14	5	**9**	23	32
Russia	58	10	**48**	25	132
Saudi Arabia	7	1	**6**	4	3
UK	30	3	**27**	6	122
US	54	2	**52**	20	120
Euro area (average)	27	3	**24**	7	85
of which:					
France	27	4	**23**	14	118
Germany	43	4	**39**	21	116
Italy	31	3	**28**	8	93
Luxembourg	22	3	**19**	4	74
Spain	29	3	**26**	13	108

Source: Global Trade Alert

Overall, during the past 14 months the levels of implemented discriminatory legislation were well above the pre-crisis trend and existing evidence suggests that protectionism may continue relentlessly in 2010, according to Evenett (2009). The number of implemented protectionist measures since November 2008 was six times larger than the number of liberalising measures taken over the same period of time. The proportion of products affected by beggar-thy-neighbour policies exceeds pre-crisis trends for several leading industrialised countries (specifically, Japan, the United Kingdom and the United States) and for many of the larger emerging markets (primarily, China, India, Indonesia, Mexico and the Russian Federation). According to the Global Trade Alert, few sectors and countries have emerged unscathed by this recent wave of protectionism. Agricultural products, iron and steel, footwear, textiles and clothing, consumer electronics, chemical and plastic products, and motor vehicles and parts have been the most affected overall by trade discrimination. China and the EU27 have been the most frequent targets. Over this period of time, China has been hit 146 times by protectionist measures and the EU27 (taken together) 140 times. No other country comes close to absorbing comparable levels of harmful measures. With the exception of China, the top ten targets of protectionist measures are all industrialised countries.

Identifying the nations that have inflicted the most overall harm is more difficult, as it depends on the chosen metrics (by number of harmful measures or by number of products, sectors or trading partners affected). However, according to all four criteria of harm and relative to already implemented

measures, emerging markets seem to be among the main offenders. The Russian Federation is always one of the top five offending nations, while China and Indonesia always rank in the top ten (see Table 4). While the United States does not rank among the top ten offenders in terms of number of implemented measures, with 42 additional measures announced it becomes one of the three G20 members responsible for announcing or implementing the highest number of trade damaging measures (see Table 3). The euro area countries have been relatively less prone to passing anti-trade legislation – on average, 24 measures affecting 85 foreign trade partners. Its largest member, however, does rank among the top ten offenders for three of the four indicators of harm identified in Table 2.

Table 4: Country rankings

	Metric, country in specified rank (number)			
Rank	**by number of already implemented protectionist measures**	**by number of affected products**	**by number of affected sectors**	**by number of affected countries**
1st	Russia (42)	Russia (486)	Algeria (54)	India (141)
2nd	Argentina (25)	Ukraine (388)	Ecuador (30)	China (138)
3rd	Germany (24)	China (331)	Indonesia (25)	Russia (132)
4th	UK (19)	Ecuador (316)	Russia (25)	Argentina (129)
5th	Italy (15)	Indonesia (315)	Mexico (24)	Indonesia (124)
6th	China (13)	India (210)	China (23)	UK (122)
7th	Hungary (13)	Japan (134)	Belarus (23)	USA (120)
8th	Spain (13)	UK (132)	Ukraine (23)	France (118)
9th	Brazil (12)	USA (124)	Germany (21)	Germany (116)
10th	Indonesia (12)	Argentina (91)	USA (20)	Spain (108)

Source: Global Trade Alert.
(*) Sectors are taken at the two-digit level
(**) Figures only consider already implemented measures. Announced, but not yet implemented, measures are not included due to the difficulty of evaluating their impact in terms of products, sectors or trading partners affected.

Table 5: Number of protectionist measures implemented by G20 countries, by type of measure

Bail out / state aid measure	58
Competitive devaluation	0
Consumption subsidy	2
Export subsidy	11
Export taxes or restriction	5
Import ban	4
Import subsidy	0
Intellectual property protection	0
Investment measure	4
Local content requirement	3
Migration measure	5
Non tariff barrier (not otherwise specified)	12
Other service sector measure	3
Public procurement	8
Quota (including tariff rate quotas)	4
Sanitary and Phytosantiary Measure	6
State trading enterprise	3
State-controlled company	4
Sub-national government measure	0
Tariff measure	36
Technical Barrier to Trade	2
Trade defence measure (AD, CVD, safeguard)	73
Trade finance	4
Total	**234**

Source: Global Trade Alert.

Of the protectionist measures recently announced or implemented, only a few were aimed at increasing tariffs (see Table 5 for G20 countries). More precisely, only 36 measures aimed at increasing tariffs were taken collectively by G20 countries between late 2008 and the end of 2009. However, these new tariffs do not appear to have had a major impact on world trade flows, according to an analysis of the changes in the tariff rates between 2008 and 2009 recently undertaken at the International Trade Centre (Mimouni et al. (2009)). Three possible reasons exist for the lack of large-scale retaliatory tariff increases comparable with those observed in the 1930s when the world experienced an economic downturn of similar size (Evenett et al. (2009)). First, at the current juncture, countries showed the willingness to recur to expansionary macroeconomic policy. By contrast, in the 1930s these instruments could not be used to the same extent owing to the gold standard and balanced-budget orthodoxy (Irwin and Eichengreen (2009)). Second, the current complex web of multilateral, regional and bilateral trade agreements may have acted as a deterrent. Indeed, most tariff increases have been carried out by countries that are less or not at all integrated into the multilateral trading system or into deep regional and bilateral agreements. Third, globalisation may have induced firms to lobby for other forms of trade protection that are more effective given the current dominance of internationally fragmented production. Indeed, the countries that have taken explicit protectionist actions (i.e. tariff and quantitative restrictions) tend to be less integrated into global supply chains.

Although the world has not seen a return to the across-the-board tariff increases of the early 1930s, governments have recently resorted to massive stimulus packages, bailouts and subsidies, many of

which include nationalistic provisions that effectively harm trading partners' exporters, investors and workers. Indeed, bailouts and state subsidies have emerged as the most frequent measure of discrimination taken by G20 countries against other nations' commercial interests (See Table 5). At the world level, 32% of all discriminatory measures were bailouts. Trade defence measures represented the second most common form of protectionism. The two types of measures together account for the overwhelming majority of all protectionist measures.

While the increase in measured protection still remains arguably limited and of low economic impact, in an economic environment that risks deteriorating further, the most crucial danger is that countries start retaliating against each other, leading to a spiral of ever more threatening restrictions and tensions. Some analysts find that there are already signs of this. For example, the Chinese government requirement of May 2009 that only Chinese companies should receive contracts for government stimulus projects was – according to some – partly in retaliation for what the Chinese government perceived as protectionist measures against Chinese goods (Jenny (2009)). In turn, the Chinese imposition of export quotas and tariffs on raw material (such as bauxite and fluorspar used to make aluminium products) led to a rash of complaints and antidumping investigations by Chinese trade partners.

Looking forward, a source of additional pressure for more protection may arise from financial markets. In response to the financial crisis, many governments are taking initiatives to stabilise the domestic economy by imposing inward-oriented measures on banks and other financial services firms. Such domestic-oriented finance measures fragment the international financial system while also disrupting trade and direct investment abroad. They penalise particular countries with less developed financial markets while also undermining the free flow of international capital, thereby representing a possible future aggravating factor for the already severely depressed international trade and global demand.

Turning back to the assessment of recent protectionist initiatives, it appears that, while current discrimination against foreign parties thus far remains limited in number and scope, there are several reasons for continued concern. First, it is not easy to gauge the full extent of recent or contemporaneous initiatives towards more protection. The data necessary for such an assessment usually become available with considerable delay and many forms of non-tariff barriers or murkier forms of protection are in any case very difficult to identify and quantify. Second, public support for free trade has eroded considerably over time, due to the perception that trade contributes to ever greater income inequalities. A slow recovery and rising unemployment would raise the risk that consumers and policy-makers increasingly believe that free trade is responsible for today's economic ills. Third, substantial government involvement in the economy is associated with more discretionary powers for politicians and, in the event of increasing public pressure and constraints in the use of macroeconomic policy tools, it would facilitate recourse to protectionist policies. Lastly, the crucial danger that countries start retaliatory measures against each other cannot yet be ruled out. There are already some signs of slippage and – in a world economic environment that remains fragile and is recovering unevenly from the crisis – the possibility of large-scale retaliations materialising for the economy at large should not be ruled out. For all these reasons, global trends in protectionism should be closely monitored and their potential effects carefully assessed.

3 Estimating the potential consequences of a protectionist backlash: review of the literature and simulation results

3.1 Protectionism of trade in goods: a brief review of the literature

Protectionism gives rise to substantial costs in the long run, which occur as a result of a large variety of market distortions. Through state aid, guarantees, bailout plans and subsidies to domestic industries and service providers, a government can artificially push down the costs for local competitors, while it can artificially push up the cost of imported goods and services with antidumping and countervailing duty orders, thereby preventing competition on merit and favouring domestic producers on the domestic market. In addition, these measures bear the intrinsic risk of leading to less welfare for all as traditionally higher fiscal spending has been associated with more discretionary powers for politicians, indiscriminate subsidies, rent-seeking behaviour and corruption.

The general case for free trade was made as long ago as in the nineteenth century by classical economists such as David Ricardo (1817), who focused on the notion of comparative advantage. Using a simplified representation of two economies with two sectors each, Ricardo showed that both countries are better off if each specialises and trades in the sector in which it has a comparative advantage (i.e. higher productivity).

Economic techniques have progressed considerably since the seminal work of Ricardo and many studies have investigated the relationship between trade liberalisation and growth. As can be expected given the complexity of the question, different studies provide different magnitudes for the economic impact of protectionism compared with free trade. The economic literature on the subject is far too broad to be listed here. A special feature published in *The Economic Journal* focuses on the link between trade liberalisation and growth in developing countries (see, in particular, the introductory chapter by Santos-Paulino and Thirlwall (2004), as well as the first article, by Winters, entitled "Trade Liberalisation and Economic Performance: an Overview"). Concerning the assessment of the expected benefit of the Doha Round, results of course depend on what will be agreed in the final package; see Decreux and Fontagné (2006) for an assessment based on a computable general equilibrium model. This article usefully addresses the important question of the liberalisation of trade in services. All in all, while a critical review of the literature by Rodríguez and Rodrik (2000) argues that results in the empirical literature are not robust when subjected to a variety of tests, the main finding remains that imposing tariffs does not increase welfare or, alternatively, that trade liberalisation enhances growth (which implies that its delay represents an opportunity cost for the world economy). This is, in particular, the case using a dynamic stochastic general equilibrium (DSGE) model developed at the European Central Bank. This model provides a quantitative assessment of the negative implications of a potential resurgence in protectionism for the world economy. Another study, described in the IMF *World Economic Outlook* of September 2002,[23] focuses on trade in agriculture and identifies three main effects. First, trade protectionism imposes substantial direct welfare costs on consumers (because tariffs raise prices) and on taxpayers (given that subsidies are associated with higher taxes). Second, protectionism reduces efficiency in the use and allocation of resources within the economy (under protectionism, domestic producers can specialise in goods and services in which they are not competitive or do not have a comparative advantage). Third, protectionism can cause fiscal and balance of payments difficulties in countries in which governments do not intervene (commodity-

[23] IMF (2002), "Trade and Finance", *World Economic Outlook*, September 2002.

exporting countries in particular can be strongly affected by protectionism abroad, and the recent food price crisis revealed the importance of this aspect). Overall, the results presented in this study suggest that the world would gain some USD 128 billion (in current dollar terms, the equivalent of over 0.4% of world GDP) if all countries were to remove agricultural protection.

However, this is only to consider static gains from liberalisation. Dynamic gains, which are more difficult to measure, could potentially be far higher. Such gains refer to longer-run developments that follow trade liberalisation; they include, in particular, higher productivity growth rates that arise from the adoption of new technologies. There is no space here to present such aspects in greater detail; the interested reader is referred to the World Economic Outlook article mentioned above. Finally, trade liberalisation can also bring gains other than those traditionally expected. For instance, trade agreements can help to solve inconsistency and credibility issues faced by governments, reduce uncertainty and help governments of small countries to signal good conditions in their domestic economy to the rest of the world, to the extent that competitive economies will be particularly willing to open up to international trade (see, for example, Fernández (1997)).

Work has also been undertaken on the effects of a reintroduction of trade barriers. In its 2005 study on global imbalances based on the so-called GEM model, the IMF[24] simulated the impact of an increase in trade tariffs in all regions as part of its scenario of disorderly unwinding. The model results suggested a very considerable downward impact on real GDP growth in all countries, with the US economy almost moving into recession during one year. This negative growth impact is largely due to the modelled response of monetary policy, which is assumed to tighten considerably in response to the upward price pressure emanating from higher tariffs. More recently, a New York Federal Reserve paper by Faruqee et al. (2006), likewise based on the IMF's GEM model, investigated the impact of trade barriers in greater detail. One of the main conclusions was that, if imposed simultaneously by all countries, an increase in import tariffs would be detrimental to world economic growth and would do little to help rebalance current account positions. One last point to note regarding the assessment of trade liberalisation is that several studies find that a further reduction in tariffs would have an only small impact on growth, partly because tariffs have already decreased significantly and have little room to fall further.

3.2 Assessing the macroeconomic effects of protectionism: a scenario analysis using the multi-country version of the ECB's New Area-Wide Model

In recent years, the appearance of sizeable trade surpluses in emerging Asia and in oil-exporting countries, accompanied by large current account deficits in countries such as the United States, has led to a lively debate in policy circles. Rising external imbalances have, among other things, fuelled protectionist sentiment in a number of countries. Some have seen protectionist measures as an appealing recipe for addressing internal and external imbalances. The effectiveness of protectionist measures in reducing global imbalances is, however, highly disputed and subject to controversy.

To facilitate the discussion, it is helpful to provide a quantitative assessment of the implications of a potential resurgence in protectionism for the world economy. In the following paragraphs, the

[24] IMF (2005) "How Will Global Imbalances Adjust?", Appendix 1.2 in *World Economic Outlook*, September 2005. The Global Economy Model (GEM) is a DSGE model that is used for policy analysis at the IMF.

macroeconomic effects of a rise in protectionist measures are analysed using the multi-country version of the New Area-Wide Model (MCNAWM).[25]

The multi-country version of the NAWM builds on recent advances in developing micro-founded dynamic stochastic general equilibrium (DSGE) models suitable for quantitative policy analysis, as exemplified by the closed-economy model of the euro area by Smets and Wouters (2003), the International Monetary Fund's Global Economy Model (GEM; Bayoumi et al. (2004)), the Federal Reserve Board's new open economy model named SIGMA (Erceg et al. (2005)) and the two-country version of NAWM as discussed in Coenen et al. (2007). Thus, it incorporates a relatively large number of nominal and real frictions in an effort to improve its empirical fit regarding both the domestic and the international dimension. The multi-country version of the NAWM consists of four symmetric countries of different size calibrated to mimic the euro area (EA), the United States (US), emerging Asia, and a remaining country block (RW) respectively. International linkages arise from the trade of goods and international assets, allowing for imperfect exchange rate pass-through to consumer prices and imperfect risk sharing. In each country, there are four types of economic agents: households, firms, a fiscal and a monetary authority. Extending the setup in Coenen and Straub (2005), the NAWM features two distinct types of households which differ with respect to their ability to participate in asset markets, with one type of household only holding money as opposed to also trading bonds and accumulating physical capital.

Regarding firms, the NAWM distinguishes between producers of tradable and non-tradable differentiated intermediate goods and producers of three non-tradable final goods: a private consumption goods item, a private investment goods item and a public consumption goods item. Producers of the private consumption and investment goods import intermediate goods needed in their production processes,[26] while the producers of the public consumption goods item use inputs of domestic origin only. Domestic producers of tradable and non-tradable intermediate goods sell their differentiated outputs in a context of monopolistic competition. By contrast, the producers of the final goods operate under perfect competition, which implies that they take prices as given. In the tradable and non-tradable intermediate goods sector, price adjustment is sluggish owing to staggered price contracts and indexation, yielding price determination through two separate Phillips curves.

The fiscal authority purchases units of the public consumption good and makes transfer payments to the two types of households, in unevenly distributed amounts. These expenses are financed by different types of distortionary taxes, including taxes on consumption spending, labour and capital income, as well as on profits. A simple feedback rule is assumed to stabilise the government debt-to-output ratio by appropriately adjusting a suitable fiscal instrument.

Finally, the monetary authority in all economies but China is assumed to follow an inertial Taylor type interest rate rule with interest rate smoothing, which is specified in terms of annual consumer price inflation and quarterly output growth. In emerging Asia, the monetary authority is assumed to follow a fixed exchange rate regime.

In the following paragraphs, three different scenarios are analysed. The first is a baseline scenario that is constructed to replicate the observed correlation between GDP growth and trade balances in the

[25] For further details of the MCNAWM, see Jacquinot and Straub (2008).

[26] Imported intermediate goods are a CES aggregate of imported intermediate goods from different regions. For example, the euro area imported intermediate goods item is an aggregate of goods imported from the United States, China and other countries (see Jacquinot and Straub (2007) for details).

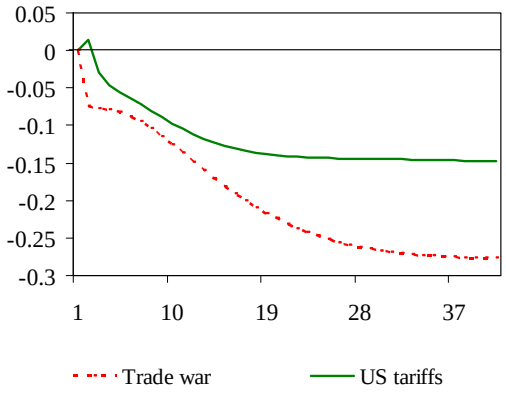
United States and emerging Asia respectively. In this scenario, global imbalances are fuelled by temporary productivity shocks in the tradable sector in emerging Asia and by a permanent increase in the productivity of the non-tradable sector in the United States.

There are around a dozen alternative scenarios contemplated by the economics literature as representative of the drivers of global imbalances. Here, we have chosen a rather simple and intuitive scenario: our main goal is not to identify the true drivers of global imbalances, but simply to quantify the effects of tariffs in a set-up that can replicate certain stylised facts. These include the positive correlation between GDP growth and trade balance in emerging Asia and the negative correlation between these variables in the United States associated with global imbalances. Our scenario is consistent with findings from the literature that a temporary productivity shock in the tradable sector triggers a current account surplus in a basic dynamic general equilibrium model (Cole and Obstfeld (1991)). This is due to the fact that in the above-mentioned models, forward-looking households are smoothing consumption over their life cycle. In other words, a temporary increase in current income increases savings rather than consumption, thereby triggering a current account surplus. On the other hand, a permanent productivity shock drives current consumption, as forward-looking households expect a permanent increase in income. As a result, the current account shifts into a deficit. Our scenario is also consistent with convincing evidence by Obstfeld and Rogoff (2005). According to these authors, the tradable sector in Asia and technology improvements in the non-tradable sector (e.g. service sector) in the United States were the main drivers of economic growth when the problem of global imbalances surfaced.

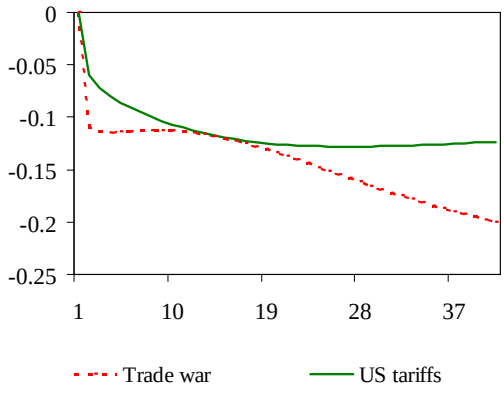
In conclusion, while the proposed scenario is certainly stylised, it is able to capture the positive correlation between GDP growth and the trade balance in emerging Asia and the negative correlation between these variables in the United States. In addition to the above baseline, we consider (i) an alternative scenario that accounts for the unanticipated imposition of a 5% import tariff on goods from emerging Asia in the United States (the “US tariff” scenario) and (ii) a scenario which, instead, foresees simultaneous introduction by the United States and emerging Asia of a 5% import tariff on bilateral trade flows (“trade war” scenario). The results are presented in Figure 18, which shows deviations from the baseline scenario of no tariffs.

Figure 18: Macroeconomic effects of protectionism: a scenario analysis using MCNAWM
(Deviation from baseline in percentage of GDP; quarters after the shock)

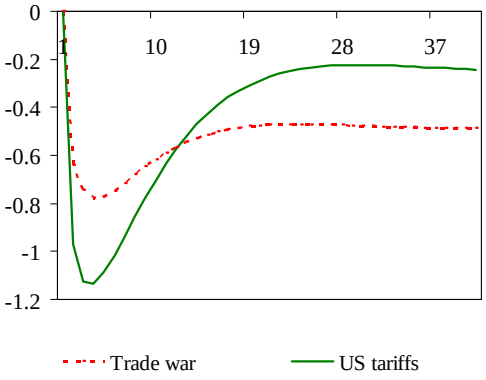
United States - GDP



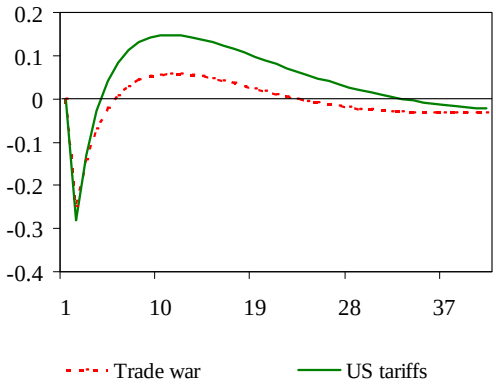
United States - trade balance as a percentage of GDP



Emerging Asia - GDP



Emerging Asia - trade balance as a percentage of GDP



The main message of the analysis is that imposing import tariffs is unlikely to mitigate widening external imbalances, but has negative effects on GDP growth in the medium term. By potentially boosting demand for domestic goods, imposing tariffs implies an expenditure-switching effect, reducing the quantity of imports from the affected foreign economy. However, imposing tariffs on imported goods cannot reduce a widening external imbalance as long as the fundamental drivers behind the imbalance, i.e. temporary productivity shocks in the tradable sector in emerging Asia and permanent productivity shocks in the non-tradable sector in the United States, are still in place.

In fact, imposing tariffs can help to reduce bilateral imbalances with respect to certain counterparts (i.e. between the United States and China), at the cost of widening other bilateral surpluses/deficits. This is confirmed by the simulation exercise presented in Figure 18, which indicates that deficits in the

United States and surpluses in Asia are, in the medium term, higher than in the benchmark scenario.[27] It should also be noted that import tariffs have a significant negative impact on GDP in both emerging Asia and the United States. In our model, this can lead to output losses up to 1.1 % of steady state GDP in emerging Asia, and 0.15 % in the United States. In the long-run, the negative impact of protectionist measures on GDP growth is, as expected, amplified under a trade war scenario.

3.3 Impact on competitiveness

While protectionism may succeed in preserving domestic production capacities in the short run, it entails additional costs in the longer run, by obstructing an efficient reallocation of resources, thereby implying efficiency losses and a deterioration of international competitiveness, including at firms based in countries implementing protective policies. In addition, protectionist measures reduce welfare by curbing product variety on the domestic market and strengthening the market power of firms at the expenses of consumers. Such welfare losses stem from the fact that protectionism equates a fallacious and often short-lived boost to production by inefficient firms. By this process, protectionist measures obstruct a market-driven reallocation of resources to the most efficient use and reduce product variety on the domestic market while strengthening the market power of firms at the expenses of consumers. The main objective of this section is therefore to quantify, for different OECD countries and industries, the impact that an increase in protectionism may have on the productivity and, therefore, the international competitiveness of firms.

The method used for the above-mentioned quantification applies rich and realistic micro-founded frameworks that can be modelled by taking stock of the insights from the new trade theory. In so doing, this type of framework allows the construction of broadly defined competitiveness measures, which account for the interaction between macro factors, including market access and institutional barriers, and firm-level productivity. Such frameworks also provide further insights regarding the policies which may foster the global competitiveness of both the firms and the countries in which these firms are located.

Four elements emerge as crucial in determining competitiveness. First, accessibility: regions granting better overall access to foreign and domestic firms are generally characterised by tougher competition and therefore by a more efficient allocation of resources, thereby increasing average productivity and consumer welfare (through richer product variety, lower average prices and mark-ups). This occurs because these countries are usually seen as better export bases, attracting a greater number of firms from neighbouring countries. Second, market size: in a world where economies of scale are important, larger and more integrated local markets also tend to be associated with tougher competition and hence richer product variety, higher productivity and lower prices. Therefore, firms in larger markets are usually more flexible and better prepared to cope with exogenous structural changes than firms in smaller and less integrated markets. Third, diffusion and level of technology: technologically advanced regions are characterised by tougher competition and higher productivity levels. Again this generates greater product variety, lower prices, higher productivity and therefore higher welfare. Fourth, institutional and political framework: the quality and resilience of the domestic institutions,

[27] While the overall trade balance generally declines after the introduction of tariffs, the trade balance as a share of GDP rises due to the negative effect of tariffs on GDP.

which also facilitate access to new markets and promote innovation, are key elements of success amid global competition. A country's ability to adapt swiftly to external shocks depends on its ability to implement timely structural reforms in areas such as product and labour markets, innovation and research.

Following Ottaviano et al. (2009), we calibrate a general equilibrium multi-country multi-sector model of international trade with firms that differ in productivity from one another. With a view to reproducing a setting that is as realistic as possible, the model also features differentiated goods, monopolistic competition and variable mark-ups. Countries served by a large number of domestic and foreign firms end up generating more productive and internationally competitive firms and posting, on average, lower mark-ups, lower prices and ultimately higher welfare levels.

The parameters of the theoretical model are calibrated using industry-level bilateral trade data and firm-level productivity data. With the aim of connecting the model transparently to the empirical estimations, we take the following steps:

1. We estimate trade frictions using the so-called "gravity equation" method, thereby inferring from trade flows the obstacles that hamper trade among the countries analysed.

2. We estimate total factor productivity (TFP) at the firm level ("firm competitiveness") and derive the resulting distributions of firms' productivity across countries and sectors.

3. The above estimates, based on theoretical derivations, are complemented by data on countries' size (population and GDP) and on average sectoral labour productivity to generate two competitiveness indices: an index of countries' overall competitiveness and one of countries' producer competitiveness. The first index aims at reflecting, as realistically as possible, the actual competitive position of countries. The second index, instead, abstracts from countries' differences in size and from trade frictions and other international factors to focus on a country's technological and institutional determinants of competitiveness. In so doing, it assesses the ability of a country to generate more productive firms in a hypothetical world without geographical and country size differences.

4. As a final step, keeping countries' producer competitiveness as given, we use the calibrated model to simulate changes in trade frictions associated with an increase of market accessibility. By means of this procedure, we infer counterfactual cross-country productivity distributions. In particular, we quantify the impact of a 5% increase in trade barriers on the productivity of firms in the markets. The microeconomic mechanisms of adjustment to this shock are discussed in Box 2.

The levels of bilateral and sectoral trade frictions quantified in Section 2 (together with data on firm-level productivity and with other sector and country-specific information) also allow competitiveness to be quantified across countries, according to the method summarised in Box 2. In this step, we estimate current levels of competitiveness in a sample of 15 OECD countries. Of these 15 countries, nine belong to the euro area (Austria, Belgium, Finland, France, Germany, Italy, the Netherlands, Portugal and Spain), three are EU members outside though the euro area (Denmark, Sweden and the United Kingdom) and three are non-EU countries (the United States, Japan and Australia).

In the estimations, we distinguish between "overall" competitiveness and "producer" competitiveness. The first concept aims at reflecting, as realistically as possible, the actual competitive position of countries as determined by countries' relative comparative advantages along with other determinants of countries' competitiveness, namely the relative size and location of demand and supply, and the

level of barriers to imports and exports. Isolating from the various determinants of competitiveness only those related to technology and institutional factors, the so-called producer competitiveness, by contrast, aims at capturing the ability of countries to generate highly productive firms. Table 6 compares the rankings of countries in terms of overall competitiveness and producer competitiveness.

Starting with overall competitiveness, we find that the most competitive countries appear to be those that are either favoured by their geographical location relative to their export markets – such as Belgium– or those endowed with a large domestic market – such as the United States. These findings are in line with our theoretical priors in the sense that countries that are large or easily accessible to firms from trading partners should exhibit a tougher competitive environment and a stronger ability to channel resources from low productivity to high productivity uses. Portugal, Spain, Australia and Italy are at the bottom of the table because of less central locations with respect to their export markets and a possible technological disadvantage, which may also be a sign of high entry costs.

When isolating producer competitiveness, the ranking of countries may change dramatically as this indicator ranks relatively highly those countries that show a strong technological advantage and/or a good institutional environment. In our calibration, the following interesting results emerge. To begin with, Finland and Japan become the most competitive countries in terms of producer competitiveness. This implies that these countries show a strong technological advantage and/or a good institutional environment, but have a disadvantage in terms of location (rank in terms of overall competitiveness). Hence, being at the periphery does not per se represent a problem for a country, unless it is compounded by clear relative technological and institutional disadvantages that hamper corporate productivity. In this context, it is worth noting that Australia shows a rather substantial improvement in terms of producer competitiveness compared with its ranking in terms of overall competitiveness. The opposite is true for Belgium and the Netherlands, whose rankings in terms of producer competitiveness are substantially lower than those in terms of overall competitiveness. This signals the drawback of a small domestic market, as well as possible technological disadvantages and/or institutional bottlenecks, partially offset by their central location. Finally, countries such as Portugal, Spain and Italy are consistently at the bottom of the competitiveness ranking, no matter how this is measured, suggesting the presence of parallel negative impacts of all the determinants of competitiveness identified in the model, namely geographical location, market access, technological and institutional (dis)advantage.

It is worth stressing some caveats of the analysis that the reader should take into account when assessing the results. The above framework is estimated by means of a computable general equilibrium methodology that should be thought of as a second best solution.[28] The results shown in Table 6 are derived by means of simulations based on the calibration of the computable general equilibrium model. Therefore, they depend on the calibrated parameters of the model itself. As a consequence, a margin of error in the point estimates presented in Table 6 should be allowed, in particular for those countries whose firm-level data exhibit poorer coverage. Against this background and given the often small differences in scores across countries, country rankings should also be treated with caution.

[28] This is due to the important data limitations with which we were confronted: currently, available firm-level data are not detailed and homogenous enough across countries to allow for a consistent and fully fledged econometric investigation, which would be the first best methodology.

Table 6: Overall versus producer competitiveness

	Country	Overall competitiveness Ranking	Producer competitiveness Ranking
AU	Australia	13	7
AT	Austria	8	5
BE	Belgium	1	11
DK	Denmark	9	6
FI	Finland	3	1
FR	France	7	8
DE	Germany	6	9
IT	Italy	12	12
JP	Japan	5	2
NL	Netherlands	4	10
PT	Portugal	15	15
ES	Spain	14	14
SE	Sweden	10	4
GB	United Kingdom	11	13
US	United States	2	3

Source: Authors' calculations

How would an increase in trade protection affect the intensity of competition globally? How would it affect the efficiency of markets? Which countries are likely to be most affected? From the insights of the trade theory summarised in the previous paragraphs, we expect regions granting an overall better access to foreign and domestic firms to be characterised by tougher competition and, therefore, by a more efficient allocation of resources. The theory also demonstrates that efficiency of production translates into higher average productivity and consumer welfare through richer product variety, lower average prices and mark-ups, owing to the fact, confirmed by studies in New Economic Geography, that a greater number of firms from neighbouring countries relocate to the more open environment in the hope of benefiting from a more advantageous export basis.

To answer the above questions and confront the indications from the theory with hard data, we simulated a counterfactual scenario where access to trade was reduced worldwide by 5%. The simulation was carried out by recomputing the bilateral and sectoral trade frictions and by using these data to calculate the implied change in overall competitiveness. The baseline was the actual cross-country pattern of overall competitiveness estimated, whose ranking is reported in the previous section. In the counterfactual scenarios, we let countries change the degree of access to their domestic economy. Then, holding all other parameters in the underlying model constant, we simulated the resulting overall competitiveness for the alternative scenario and compared it with the baseline. Specifically, we increased trade frictions across our sample of 15 OECD countries by 5% (hence implicitly implying that trade relations with the rest of the world remain unaffected).

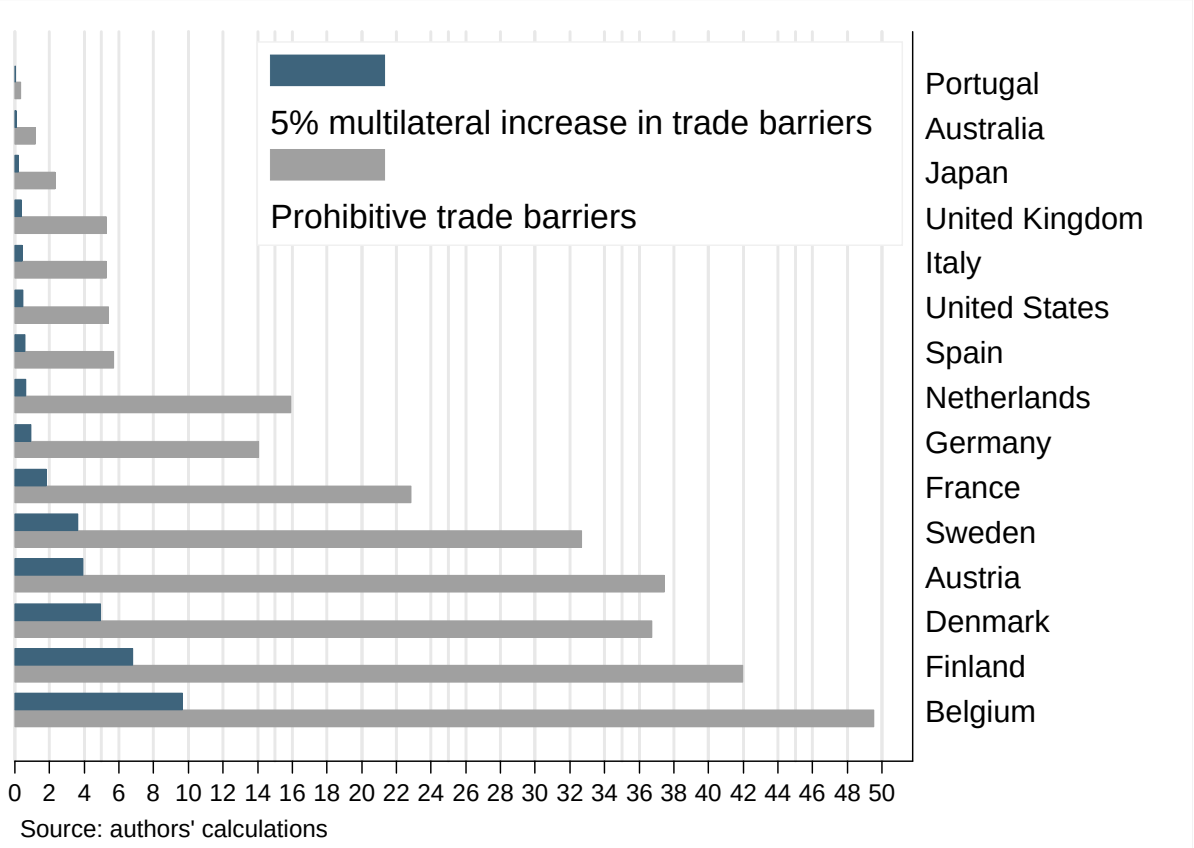
The results, reported in Figure 19, are shown as a difference with respect to the previously computed level of overall competitiveness, used as a baseline.[29] The results can be interpreted as follows: If all 15 OECD countries in the sample increased their barriers to imports from abroad in a hypothetical trade war, the loss in overall worldwide competitiveness would be substantial. As expected, in terms of international competitiveness, all countries would lose to some extent. This is due to the fact that an increase in protection forces firms to reduce their average scale of operations. This in turn leads to a less efficient productive environment, higher average prices for consumers and higher mark-ups.[30] The expected losses would, however, be larger for the smaller and more competitive countries (most notably Belgium, Finland and Denmark). By comparison, losses for relatively disadvantaged countries – either because of a poor level of producer competitiveness (Portugal) or because they are geographically remote (Australia and Japan) – would be of a relatively small magnitude, primarily because performance was already poor prior to the move towards protectionism. At the same time, countries that benefit from a large domestic market, such as the United States would also be likely to be less affected by an increase in trade protection. The reason for such a smaller impact is that a large home market allows resources to be allocated efficiently within domestic boundaries, despite the decrease in foreign competition.

[29] For details of the mechanisms of firms' adjustment to a change in trade barriers, see Box 2

[30] In general, the losses in terms of efficiency, scale and prices are associated with ambiguous effects in terms of product variety. Mélitz and Ottaviano (2008) show that in this model the former always dominate. This implies that a lower domestic competitiveness necessarily delivers lower national welfare.

Figure 19: Simulation results of an increase in trade protection on overall competitiveness

(percentage changes relative to baseline overall competitiveness ranking; a positive sign indicates losses in overall competitiveness)



Source: authors' calculations

In order to provide a benchmark for the gains/losses resulting from a 5% increase in trade barriers, Figure 19 also shows ranges resulting from a comparison of the effects of imposing prohibitive trade barriers, i.e. barriers that prevent any trade, in all countries in the sample. The extent of the losses in overall competitiveness resulting from a 5% increase in trade protection can be measured relative to the losses in competitiveness that countries would experience should they impose prohibitive barriers, i.e. barriers leading to no trade. This figure ranges from 4% (the Netherlands) to 20% (Belgium). This indicates that the effect of protection on countries' competitiveness, while being consistently negative, is non-linear. A combination of domestic and international factors helps to determine its impact.

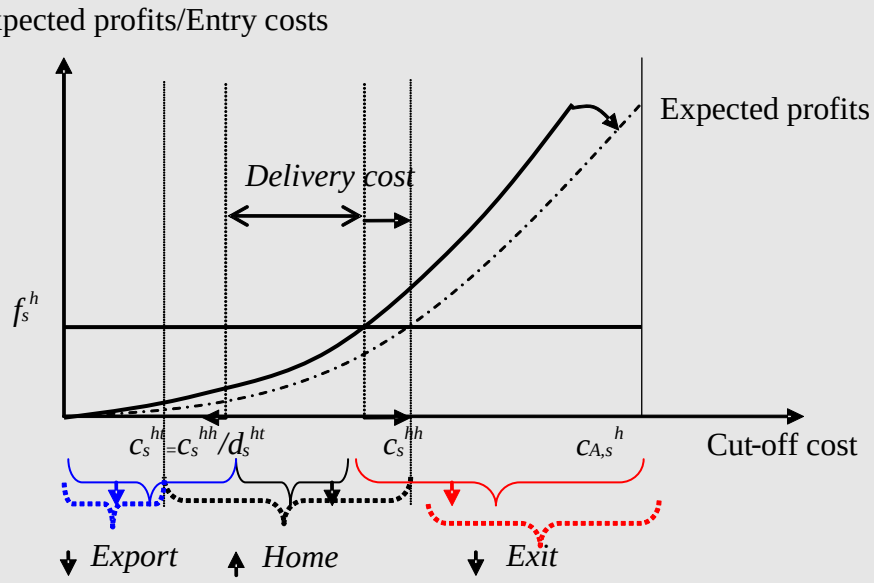
In conclusion, protectionism leads to a worldwide loss in efficiency and firms' productivity. It does so by reducing the average scale of firms. This in turn leads to higher average prices for consumers and higher mark-ups. These effects are stronger for smaller and/or more open countries. They are also stronger for countries which specialise in sectors with higher trade freeness and a higher sensitivity to firm selection or for countries whose firms are, on average, highly competitive.

Box 2: Mechanisms of firms' adjustments to a change in trade barriers

Government actions that result in a build-up of barriers to international trade imply lower expected profits by the firms, as the latter are forced to reduce the scale of their operations. The aggregate outcome for the economy is portrayed in the figure below, where we assume that both the domestic country and the foreign counterparts reduce access by foreign firms to the respective domestic market. This situation is realistic as countries usually retaliate to foreign commercial policies that they consider aggressive.

In order to follow the mechanisms of firms' adjustments to a change in trade barriers, the key parameter to retain is the domestic cut-off. The cut-off is an inverse number of the minimum productivity that a firm needs to survive in a given market. It is also a determinant of overall competitiveness, inversely correlated to it.

Figure: Industry reallocations following a multilateral move towards protectionism



Hence, at a given level of domestic cut-off c_s^{hh}, the effect of a "multilateral" protectionist move is shown graphically by the downward shift of the expected profits curve and the corresponding shift to the right of the intersection point between the curves representing expected profits and fixed costs of entry in a market (f_s^h) respectively. As shown graphically, the new equilibrium domestic cut-off c_s^{hh} will have a higher level, implying that firms will become on average less productive.

This outcome is due to the following sequence of events. The lower expected profits result in the exit of some foreign firms from the domestic market. This fact has the immediate effect of releasing some of the import competition in the market, thereby allowing the weakest domestic firms to survive somewhat more easily by selling on the domestic market. This is shown by the increase in the area denoted "Home", which indicates an increase of firms that concentrate on home sales and a reduction of the area denoted "Exit", which indicates that the less competitive environment allows more of the smaller and less productive firms to survive. However, granting the survival to more home firms comes with an important aggregate welfare cost and a decrease in the average productivity of the country. The welfare cost materialises in the form of an increase in the average price and mark-up, as well as by a reduction in the number of products and varieties sold on the domestic market. In summary, protectionist moves trigger anti-competitive effects to the detriment of consumer welfare and prevent healthier firms from exploiting economies of scale, thereby weakening the whole productive apparatus of a country. At the same time, as a consequence of less accessible foreign markets and of increasing barriers to trade (measured by the parameter d_s^t), profits of domestic exporters are also depressed. This is shown by a shift to the left of the parameter C_s^{ht} and a reduction of the area denoted as "Export".

3.4 Financial protectionism

While most of the debate on protectionism focuses on trade in goods, the issue of financial protectionism should not be neglected, especially in the context of the financial crisis, which induced governments to implement rescue packages for their financial institutions. Substantial economic research has been conducted on the effects of financial liberalisation. One difference with the issue of trade liberalisation is perhaps that the debate has, in this case, turned out to be more controversial.

The expected benefits of financial liberalisation can come through two major channels. First, financial liberalisation may have a positive impact on domestic investment and growth if the policy environment is favourable (i.e. robust institutions, sound macroeconomic policy, deep financial markets and high-quality financial sector regulation and supervision), as discussed, for instance, in Bekaert et al. (2005), who find that equity market liberalisations lead to an increase in annual real economic growth that rises in line with the quality of institutions. Other recent studies have also tended to find positive effects of financial liberalisation on growth. Obstfeld (1994) points out that there are potentially large and permanent welfare gains from access to the world capital market, as this allows consumption to be smoothed in the face of adverse shocks. Second, financial liberalisation may play an important catalytic role in improving institutions, enhancing good governance practices and strengthening macroeconomic discipline, as suggested by Kose et al. (2006). In addition, it has been argued that financial openness via foreign bank penetration improves the quality of financial services and the stability of the financial system, as indicated by Levine (1996) and Caprio and Honohan (1999) or empirically tested by Goldberg et al. (2000) and Giannetti and Ongena (2009). Meanwhile, it has also been pointed out that cross-border capital mobility is not necessarily a driver of financial crises in developing countries. For instance, Edwards (2005) finds no systematic evidence that countries with higher capital mobility tend to have a higher incidence of crises, or a higher probability of having crises, than countries with lower mobility. Under certain conditions, foreign investment is expected to crowd in domestic investment, thereby reducing the cost of adopting new technologies (see Borensztein et al. (1998) for a theoretical approach).

In spite of this, the empirical literature has thus far not reached a consensus on the link between freer capital flows and economic development. Indeed, a study by Prasad et al. (2006) finds evidence of the "puzzle" of financial openness and growth being positively correlated in mature economies, but negatively correlated in developing countries. A number of hypotheses have been put forward to explain this puzzle. The most important is possibly that opening up to foreign capital is beneficial to the extent that a country performs sufficiently well in terms of factors including property rights, contract enforceability, low corruption and the absence of expropriation measures. Otherwise, as is argued by Rodrik and Subramanian (2008), an increase in financial openness due to financial account liberalisation would only boost consumption, while the effect on domestic investment and growth could be negative. Herding and contagion risks have also been mentioned. Levchenko et al. (2009) show that financial liberalisation increases both growth and volatility at the sectoral level. Chang and Verdasco (2000) point to costly liquidity runs in the wake of large reversals of short-term capital flows. Finally, Petersen and Rajan (1995) discuss the risk for small firms arising from foreign bank entry. They argue, however, that small firms suffer under financial liberalisation and foreign bank entry because they thrive on local banking monopolies for soft information reasons.

One difficulty that arises when evaluating the economic effects of financial account liberalisation is the fact that these effects may vary over time. In particular, countries that liberalise tend to gain in the

period immediately following capital account liberalisation, but may not record higher growth or may even experience temporary growth reversals in the longer run (see Bussière and Fratzscher, 2008). Concerning the longer-run effects, the quality of domestic institutions, the size of foreign direct investment inflows and the sequencing of the liberalisation process are found to be important factors. To conclude, although the magnitude of the effects may vary depending on the methodology, the literature seems to point to important welfare gains from financial liberalisation in the long run, especially if the sequencing of reforms is properly scheduled.

4 Conclusions

After three decades of steady progress towards liberalisation of international trade and financial flows, during which there was evidence of a marked rollback of protectionist pressures, the issue of protectionism suddenly returned to the policy agenda with the outbreak of the financial crisis. This reversal was especially noteworthy in that it coincided with a strong collapse in trade flows. Whereas trade was a powerful driver of integration in the past decades, weakening trade flows have contributed to propagating the crisis across borders. In addition, whereas trade integration allowed both developing countries and emerging market economies to develop at unprecedented speed, the latter have been strongly affected by the drying up of financial flows and remain strongly reliant on foreign demand for their exports. Against this background, the resurgence of protectionism, if protectionist *pressures* were to turn into a significant rise in protectionist *measures*, would have devastating effects on recovery, by further hampering trade and financial flows.

The aim of this paper was to evaluate the seriousness of the protectionist threat by monitoring protectionist *measures* over the medium to long term, by reporting on protectionist *pressures* and by providing an evaluation of a potential protectionist backlash on the global economy and on competitiveness. This evaluation drew, in particular, on model-based simulations using models developed at the ECB: the MCNAWM model (Jacquinot and Straub, 2008) and the framework of Ottaviano et al. (2008, 2009).

Some key results stand out. First, while actual protectionist *measures* to restrict trade through tariff and non-tariff barriers have risen during the crisis, their economic impact so far remains moderate. At the same time, public *pressure* for protectionist measures has been on the rise since the mid-2000s and there is a risk of it escalating further if a vulnerable macroeconomic environment persists over time. In this respect, the paper presented a battery of indicators that can be used in future work to monitor protectionist trends in the world economy. Second, the increasing calls for protectionism, which have intensified since the start of the financial crisis, appear clearly linked to the widening of global imbalances over recent years. Third, the economic literature, supported by our own simulations, suggests that a rise in protectionism is unlikely to mitigate widening external imbalances; moreover, protectionist measures would have negative implications for real GDP growth and competitiveness in the medium term.

Overall, therefore, the risks attached to protectionism should not be neglected. They relate to trade in goods but also, importantly, to trade in services and to financial flows. While our indicators do not point to a substantial rise in protectionist measures so far, the rise in protectionist pressures that we have recorded could signal a forthcoming increase in actual measures. Looking forward, the comparison with the 1930s may not be fully justified: first, public opinion is still attached to free trade; second, emerging market economies have benefited substantially from globalisation and are therefore unlikely to wish to reverse it; third, countries are now bound by a series of treaties and free trade agreements that considerably limit the scope for protectionism. Yet, the risks of protectionism remain elevated; it would take the form of indirect measures, as repeatedly explained by WTO Director Pascal Lamy. This calls for heightened vigilance and for the ongoing systematic monitoring of protectionism.

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