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Trade as a driver of prosperity

Accompanying document to the

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

Trade, Growth and World Affairs

Trade Policy as a core component of the EU's 2020 strategy

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I INTRODUCTION AND SUMMARY

The main purpose of this Staff Working Paper (SWP) is to provide economic analysis, statistics and background material in support of the trade policy communication "Trade, Growth and World Affairs".

Secondly, the SWP also responds to the Competitiveness Council Conclusions[1] (2009) that call for "an assessment of the EU's own openness as well as that of third countries in order to ensure that EU businesses are operating in a genuinely global competitive environment". This paper provides various indicators on the EU's and its trading partners' openness with respect to trade in goods, services and investment.

Finally, the SWP responds to a frequently mentioned request in the public consultation on the new trade policy for more economic analysis on trade issues and EU trade openness. This paper summarizes the findings from many feasibility studies and impact assessments on trade policy issues carried out internally by Commission services or subcontracted to external researchers. It also refers to relevant publications by academic researchers and international organisations.

The SWP starts by making the case again for open trade as an important driver for economic growth and job creation in the EU as well as worldwide, and as a necessary condition to strengthen the competitiveness of the EU in global markets. The triple benefits from trade opening are:

- Economic growth: Completing all ongoing free trade negotiations (DDA and bilateral agreements) would add more than 0.5% to EU GDP, and making further progress on services and regulatory issues with major trading partners could push this figure above 1% of EU GDP.
- Consumer benefits: trade brings a wider variety of goods and services to consumers and to companies, at lower prices. Consumer benefits alone are estimated at 600 Euros per year.
- Employment: 7.2% of EU employment dependents directly or indirectly on exports. When all trade effects are taken into account (exports, imports, productivity and efficiency gains, income effects, etc), around 18% of EU labour force (36 million jobs) is dependent on our trade performance. Trade also generates a wage premium estimated at 7%.

It demonstrates that, overall, trade opening creates jobs. Labour market pressures, especially in manufacturing, are mostly induced by technological progress, less so by trade opening, though labour market flanking measures are desirable to ensure an inclusive growth process. It examines the impact of the 2008-2009 economic crisis on trade flows and global imbalances and concludes that protectionism has so far been kept at bay. Creating more growth and jobs in the EU will require a stronger export orientation but without falling into mercantilism: competitive exports require competitive imports.

The SWP then examines the trade policy instruments that could be used to accelerate economic growth and job creation. The EU is among the most open economies in the world in terms of import tariffs but still faces high tariffs on its exports to some countries and regions. The bilateral Free Trade Agreement (FTA) negotiations launched under the Global Europe

[1] Council Conclusions " Priorities for the Internal Market in the next decade ─ a contribution by the Competitiveness Council to the post-2010 Lisbon agenda", 4 December 2009, paragraph 19.

trade strategy (2006) will eliminate tariffs on substantially all trade in goods with these FTA partners that account for about half of EU external trade. The remaining tariffs will be mainly on trade in agricultural products, except for imports from the least developed countries and developing countries having signed an Economic Partnership Agreement, and on the remaining half of EU trade with its largest trading partners (US, Japan, China, Russia) where MFN tariffs will continue to apply.

The paper shows that the trade costs of non-tariff barriers to trade are now relatively more important than tariffs, especially in trade between the EU and its major trading partners. This includes trade costs created by differences in regulatory measures, norms and technical standards. Likewise, the trade costs of regulatory barriers to services trade are considerably higher than tariffs on goods. Initiatives to deepen the completion of the EU Single Market in services should facilitate EU external negotiations on services trade opening. More will need to be done to ensure that domestic reforms in the EU benefit growth through a two-way interaction between EU Single Market reforms and external market access policies.

Evidence is presented that shows that EU public procurement markets are considerably more open than those of major trading partners. While this gives EU taxpayers more value for their tax money, it also reduces EU leverage in trade negotiations on access for EU exporters to public procurement markets in other countries.

Trade openness is an important lever to lift developing countries out of poverty and enable them to reap the benefits of globalisation. The EU's General System of Preferences (GSP) for exports from developing countries has contributed to this. Furthermore, the EU provides considerable Aid-for-Trade to help them build the capacity to benefit more. Fast-growing Emerging Market Economies have different development needs and capacities, compared to low-income countries. This needs to be reflected in future unilateral EU trade preferences for developing countries.

It is difficult to make general statements about the impact of trade opening on the environment, including on greenhouse gas emissions, natural resources and biodiversity. For example, there is a perception that long-distance trade necessarily increases the carbon footprint of goods, because of the emissions involved in transport. This is by no means a forgone conclusion because several factors play positive and negative roles. In the context of the EU2020 emphasis on sustainable and inclusive growth , more attention will need to be paid to assessing the social and environmental impact of trade agreements, including on greenhouse gas emissions, and measures that can be taken to mitigate potential negative impacts.

Trade is one of the main channels of global innovation and knowledge transmission. The EU has a strong global market position in knowledge and innovation-intensive goods. A variety of trade policy instruments has been put in place to promote trade in innovative goods and protect the underlying intellectual property rights that enable these goods to fetch premium prices on global markets. More still needs to be done however to combat trade in counterfeited goods.

In summary, this SWP demonstrates the potential contribution that EU trade policy can make to the achievement of the EU2020 policy objectives of smart, sustainable and inclusive growth and job creation. The multilateral and bilateral trade negotiations currently underway will boost trade mainly by means of further tariff reduction on goods, and to a lesser extent by

means of reductions in non-tariff barriers. Attention now needs to be directed to reducing the trade costs of non-tariff barriers and regulatory measures in goods, services and investment, achieving better market access in public procurement and raw materials, and protecting IPR.

II THE ECONOMIC BENEFITS OF TRADE OPENING

This chapter makes the case for further trade opening and the role that trade can play in coming out of an economic crisis. It provides evidence to support the view that trade openness contributes to the objectives of Europe 2020 in terms of enhancing economic growth and creating more jobs. The changes in the sector and skill composition of the EU labour force, which can mostly be put down to rapid technological progress, and to a lesser extent to trade opening, require flanking measures to ease the transition for workers. It is also argued that the opening up of external trade and internal (domestic) reform measures cannot be separated, either for developing countries or for the EU. Internal Market reforms and external competitiveness are inextricably linked. The Single Market is not an isolated island but a two-way street that links the EU with the global economy.

1) TRADE AND GROWTH: THE TRIPLE BENEFIT FROM TRADE OPENING

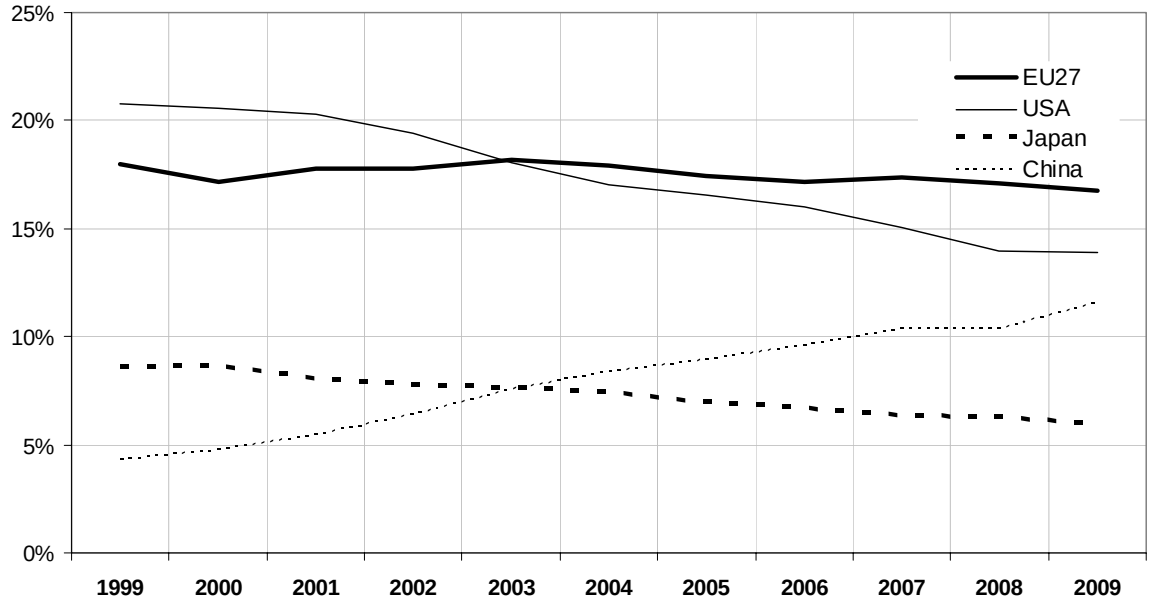
Global trade has grown rapidly in the last decade. From 1999 to 2009 the value of world merchandise trade grew by 73%.[2] That growth occurred largely independently of trade policies and reductions in tariff and non-tariff barriers[3]. It is driven mainly by growth in incomes and demand, especially in emerging market economies, and by falling transport and communication costs, improvements in economic policies and the investment climate in emerging market economies, and the relentless competitive pressures that drive the search for innovation, cost-cutting, outsourcing and economies of scale in many industries.

The rapid economic rise and increasing involvement in global trade of the emerging market economies, especially the major players such as China, Russia, India and Brazil, is sometimes perceived as a threat to the economic position of the EU. However, the empirical evidence points out that the EU has done well over the past decade in terms of its trade performance in the global economy; it has turned challenges into opportunities. The EU's share of global goods exports has been more or less stable, despite a strong increase in the share of emerging market economies and a significant decline of the share of other major developed economies, including the US and Japan (see Figure 1).

[2] Source: WTO and Eurostat. This excludes intra EU27 trade, values in euro.

[3] The importance of trade opening in the growth of world trade is subject to different interpretations. Bergstrand (2001) estimates that about a quarter of the growth in world trade can be attributed to tariff reductions. The trade impact of non-tariff barrier reduction is estimated to be even greater. See "The Growth of World Trade: Tariffs, Transport Costs, and Income Similarity," (with Scott L. Baier), Journal of International Economics/Elsevier, 53, February, 2001, 1-27. But Yi (2001), for instance, argues that vertical specialisation and growth in trade in intermediate goods is the main driver as opposed to trade policy. See Kei-Mu Yi, 2001. "Can vertical specialization explain the growth of world trade?," Staff Reports 96, Federal Reserve Bank of New York.

Figure 1 Share of EU27*, USA, Japan and China in World Trade in Goods (%)



* excluding Intra EU Trade

Sources: WTO, Eurostat (Comext)

Moreover, the EU has done relatively well over the period 1994-2007 in high-tech products and in all price segments of the market[4], as shown in Table 1. The two major developed countries, US and Japan, lost very significant market shares in high tech products while the EU managed a small increase. Only China significantly increased market share in high tech products, although starting from a very low share[5]. The EU also held ground in the upper price segment of goods markets where other major developed countries lost significantly.

Trade opening has given a significant boost to global trade flows. However, trade growth is not pursued for its own sake. Trade is a means for the EU to reap a triple benefit: (i) more economic growth; (ii) greater consumer welfare and higher incomes and (iii) increased employment and better-paid jobs. How much growth in trade has contributed to incomes and employment creation is not an easy question to answer. In fact, this question has stimulated considerable debate in economic circles.

The debate mainly revolves around different measures of trade openness. Should openness be measured on the basis of trade instruments such as tariffs and non-tariff barriers to trade, or should it be measured in terms of results, for instance the ratio of trade to GDP? All of these measures have pros and cons. A simple average tariff gives equal weight to all tariffs, but

[4] A. Cheptea, L. Fontagné and S. Zignago (2010) "European export performance", CEPII working document nr 2010-12, available at www.cepii.fr. Table 1 is taken from the same study. High-tech products are defined as products based mainly on high-tech content. Goods are classified in upper, middle and lower market price segments with respect to the global price distribution of trade flows. See paper for more detailed explanations. See also section IV.4.

[5] The figure for China should be interpreted with caution since a large part of its high-tech exports is actually processing exports whereby only a small part of the total value-added is produced in China.

does not take into consideration the importance of different tariff lines for trade. A trade-weighted average tariff underestimates trade barriers and hides the importance of very high tariffs that cut off trade completely, since their weight in the overall average would be zero. The overall ratio of trade to GDP (see table 2) is influenced by country size (smaller economies generally trade more with the rest of the world than do the larger economies, which have a large internal market), location and industry structure. Most researchers use a combination of all these measures, so as to iron out biases in each of them[6]. There is no single perfect measure and, moreover, these measures do not correlate well with each other. Taking them one step further and trying to establish a causal link between trade openness measures and economic growth makes matters even more difficult.

Table 1 World market shares for high-tech products and by market price segment. EU25 and major trading partners (1994-2007)

	High-tech products		Up-market		Mid-market		Low-market	
	2007	*94-07*	2007	*94-07*	2007	*94-07*	2007	*94-07*
Exporter	% share	change	% share	change	% share	change	% share	change
EU25	16.9	*0.81*	28.8	*0.83*	16.8	*-1.51*	16.1	*0.25*
EU15	15.7	*-0.02*	27.5	*-0.16*	15.6	*-2.18*	14.6	*-0.24*
NMS10	1.2	*0.83*	1.3	*0.99*	1.2	*0.68*	1.5	*0.49*
USA	13.7	*-11.15*	13.5	*-6*	13.5	*-3.2*	10.5	*-5.39*
Japan	8.0	*-12.68*	9.8	*-9.76*	8	*-10.79*	8.5	*-1.34*
China	21.2	*17.79*	7.6	*5.94*	15.5	*11.37*	22.9	*10.67*
India	0.6	*0.39*	1.0	*0.52*	1.9	*1.0*	1.9	*0.5*
Russia	0.4	*0.14*	0.9	*0.59*	2.0	*0.9*	1.5	*0.22*
Brazil	0.6	*0.32*	0.9	*0.12*	2.1	*-0.2*	1.7	*-0.19*

Source: CEPII (2010) "European export performance". See footnote 5.
Note: Change in market shares in percentage points.

Table 2 Trade ratios as a measure of openness for the EU and major partners

Trade / GDP ratios	
World	0,41
EU27	0,26
USA	0,24
Japan	0,27
China	0,50
Russia	0,44
Brazil	0,23
India	0,46

Source: IMF, WTO, Eurostat data

Conceptually, there are several arguments for a positive link between trade and economic growth. First, openness enhances efficient resource allocation. It creates incentives for capital and labour to be put to work in the areas with the highest return. Second, trade facilitates the

[6] See for instance World Bank, "World trade indicators" (2009).

dissemination of knowledge and innovations embodied in goods, services and investments. Third, open trade encourages competition and thereby provides an incentive to supply the best price/quality ratio of goods to consumers and to increase productivity. Fourth, opening up trade gives producers access to larger markets and hence, the possibility to reap the benefits of increasing returns to scale and specialisation.

Empirical research demonstrates that the most plausible conclusion is that trade opening does increase growth both in developed and in developing countries[7]. However, some disagree[8] and argue that institutional quality determines growth far more than trade does. In reality, these two effects may well be interlinked. Few would contest the importance of good institutions and a good regulatory environment as pre-requisites for trade-led growth and for attracting FDI. A consensus seems to have been emerging in recent years that trade opening works best for growth, employment and incomes when it is combined with other structural reform measures[9]. This is especially the case for low-income developing countries with lower-quality institutions. For this reason, the Commission has supported the idea of a development-driven approach to the Economic Partnership Agreements with the ACP countries that goes beyond pure trade opening to include an institutional development dimension. However, even for high-income countries the link between trade opening and institutional reforms can be important. That is why this Staff Working Paper argues in favour of strengthening and further reform of the EU internal market in order to reap the benefits from trade opening.

The European Commission carries out feasibility studies and (sustainability) impact assessments to estimate the potential trade and economic growth effects of bilateral and multilateral trade agreements by means of ex-ante economic simulations. The general equilibrium models used for this purpose capture the benefits from resource re-allocation and economies of scale. The effects of innovation and technological progress are more difficult to estimate and can usually be captured only indirectly through increased investments. Only the more sophisticated models capture the benefits of increased diversity in the supply of goods. The impact of individual bilateral FTAs on EU GDP is usually quite small, in the range of a 0.1 to 0.2% increase, because the EU economy is much larger than the economies of its bilateral FTA negotiating partners. The corresponding increase in EU exports may be significantly higher, as much as 2%. These results suggest that there is a fairly robust case to be made for the positive growth effects of trade opening. For instance, if all ongoing trade negotiations (both multilateral and bilateral) in which the EU is engaged were to be successfully concluded, EU GDP would increase by around 0.5%. Making further progress in our relations with strategic partners, in particular an enhanced transatlantic partnership with the US to tackle non-tariff issues, could double this growth effect. Furthermore, preliminary ex-post assessments of the trade impact of operational EU bilateral FTAs suggest that they increase bilateral trade significantly[10].

Trade opening leads to higher productivity and thereby contributes to increased external competitiveness of EU industries. Chen et al, for example, estimated that productivity in

[7] A. Winters, "Trade liberalisation and economic performance: an overview", Economic Journal, 114, 2004, and R. Wooster, S. Dube and T.M. Banda (2006) "The contribution of intra-regional and extra-regional trade to growth: evidence from the EU",

[8] F. Rodriguez & D**.** Rodrik **(**2001) "Trade Policy and Economic Growth: A Skeptic's Guide to the Cross-National Evidence," NBER wp 7081.

[9] R. Chang, L. Kaltani, N. V. Loayza (2009) "Openness can be good for growth: The role of policy complementarities", Journal of Development Economics 90 (2009) 33–49.

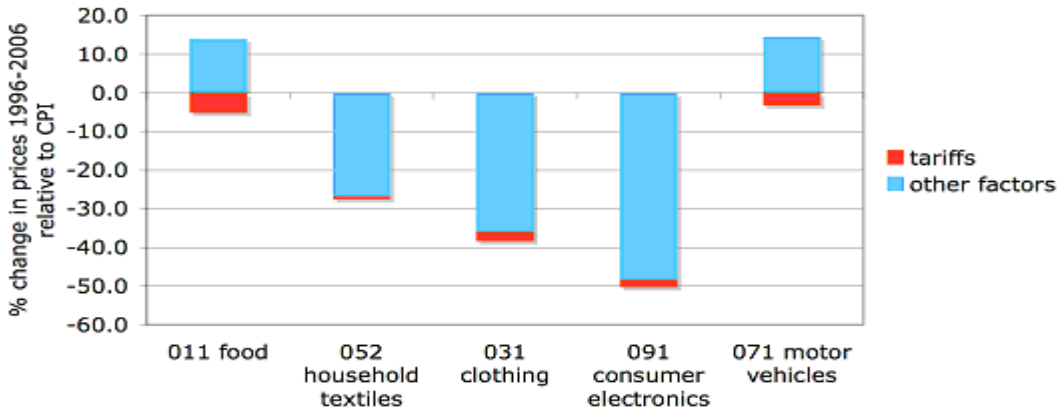
[10] Copenhagen Economics (2010) "An ex-post assessment of the trade impact of EU FTAs", forthcoming 2010.

European manufacturing increased by 11% during the period 1988-2000, while mark-ups are estimated to have decreased by 1.6% in response to increased imports[11]. These effects are important in generating additional impetus for economic growth. Trade-led productivity increases are not only beneficial for EU economic growth and external competitiveness but also for the domestic consumer. European consumers benefit from trade in two cumulative ways.

Firstly, they benefit from lower prices as a result of trade liberalization and import competition. Tariff cuts lead to lower consumer prices, although the pass-through effect of this price transmission channel is usually imperfect. For instance, during the period 1996-2006 import prices for textiles and clothing fell by 27.5 and 38.4 percent respectively in real terms (i.e. relative to the general CPI) (see Figure 2). For the same period the import price of consumer electronics fell by around 50%.[12]

This effect has positive macroeconomic spill-over effects leading to an overall reduction in inflation as a result of trade openness and increased international competition. The existing literature provides ample evidence to suggest that openness leads to lower inflation. Recent studies suggest that this relationship is even stronger than in the past, as a result of greater participation in the global economy.[13]

Figure 2 Real EU import price changes 1996-2006 (in % by sector)



Source: Francois et al, 2007. See footnote 13.

Secondly, consumers benefit from trade liberalization through access to a wider variety of goods and services. This important but often neglected source of welfare and economic growth stems from the benefits that consumers reap from access to a wider range of products and services that meet their needs more effectively and/or at a lower cost. It also enables EU

[11] N. Chen, J. Imbs and A. Scott, "Competition, Globalization and the Decline of Inflation", CEPR Discussion Paper Series No. 4695, 2004. Only part of the increase in imports is due to further trade opening.

[12] J. Francois, M. Manchin, and H. Norberg, "Passing on of the benefits of trade openness to consumers", European Commission, Directorate General for Trade, 2007, p.7.

[13] W.C. Gruben. and D. McLeod, "The Openness- Inflation Puzzle Revisited", Applied Economics Letters, 11, 2004, pp.465-468.

firms to source a more competitive range of inputs and thereby become more competitive both at home and abroad. For example, a recent study estimates the gains to American consumers of the growth in global variety during the period 1972-2001 to be about 2.6% of GDP.[14] Translating these "variety gains" into an EU context suggests that the average European consumer benefits are in the range of 600 € per year, in addition to the gains due to lower prices.

However, European firms and consumers are not the only economic players to reap benefits of greater integration of the EU in the global economy. Increased trade leads to more jobs and higher wages. As was shown above, trade makes a net positive contribution to economic growth, thanks to resources being (re-)allocated to the most efficient economic activities. Although such shifts sometimes give rise to adjustment costs (see next section for a more detailed analysis), trade does make a net positive contribution to both job creation and wage effects. For instance, based on a detailed analysis of the EU25 input-output tables for 2000, it is estimated that around 14 million jobs throughout Europe depend on exports to the rest of the world[15]. On the basis of a CGE model simulation aimed at quantifying the wage premium arising from the current EU trade patterns, it is estimated that the average wage in Europe would be 7% lower if the EU did not trade internationally. The same analysis shows that, if real wages are constant, abandoning EU external trade would result in an 18% drop (36 million jobs) in EU employment[16]. This indicates the significant job creation effect of the integration of the EU economy in the global trading system.

Box 1 The triple benefits from trade opening

- **Economic growth:** Finalizing the DDA and all the ongoing FTA negotiations would add up to 0.5% to EU GDP. Making further progress on our relations with strategic partners, in particular an enhanced Transatlantic Partnership with the US would double this growth effect. This contribution by trade policy to the EU 2020 objectives will be all the more important, if recovery in Europe remains subdued during the coming years.

- **Consumer benefits:** the gains from wider variety of goods and services for the average European consumer are in the range of 600 € per year, on top of the gains from lower prices.

[14] C. Broda, and D.E. Weinstein, "Globalization and the Gains from Variety", The Quarterly Journal of Economics, 2006, pp. 541-585. See also Mahler and Seitz, "The gains from variety in the European Union", Munich Discussion Paper No. 2010-24) and Langenfeld and Nieberding "The Benefits of Free Trade to U.S. Consumers", Business Economics, 40 (3), 2005, p. 41-51.

[15] A recent study published by the U.S. Department of Commerce, also based on input-output data, show that in 2008 US exports supported more than 10 million full-time and part-time jobs, which represented around 6.9% of total employment. For further details see US Department of Commerce, "Export Support American Jobs", 2010. Downloadable at http://trade.gov/publications/pdfs/exports-support-american-jobs.pdf.

[16] Calculations were performed on the latest version of the GTAP model and database (version 7). The policy shock introduced a 99% reduction in EU external trade (but continued intra-EU exchange). Capital flows were restricted. This approach is similar to the simulation of, for instance, partial trade bans or trade quotas. In the second simulation, real wages in the EU were kept fixed. For examples of this technique see Kurzweil, M. (2002), "The need for a „complete" labor market in CGE modelling", *GTAP Application, 2002 Conference Paper* or Polaski, S. (2006), *Winners and Loosers. Impact of the Doha Development Round on Developing Countries*, Carnegie Endowment for International Peace, Washington, DC, p. 85).

- **Labour effects:** In 2000, around 14 million jobs in Europe (around 7.2% of EU employment) were dependent on our ability to export to the rest of the world. This included the jobs of those working directly for the production of exported goods and services as well as those employed in downstream sectors producing inputs for those goods[17]. The EU's integration in the global economy through increased trade also generates a wage premium: if the EU stopped trading with its external partners, real wages would drop by 7% on average. If wages would remain fixed, employment would drop by 18% (36 million jobs) instead.

2) TRADE AND EMPLOYMENT

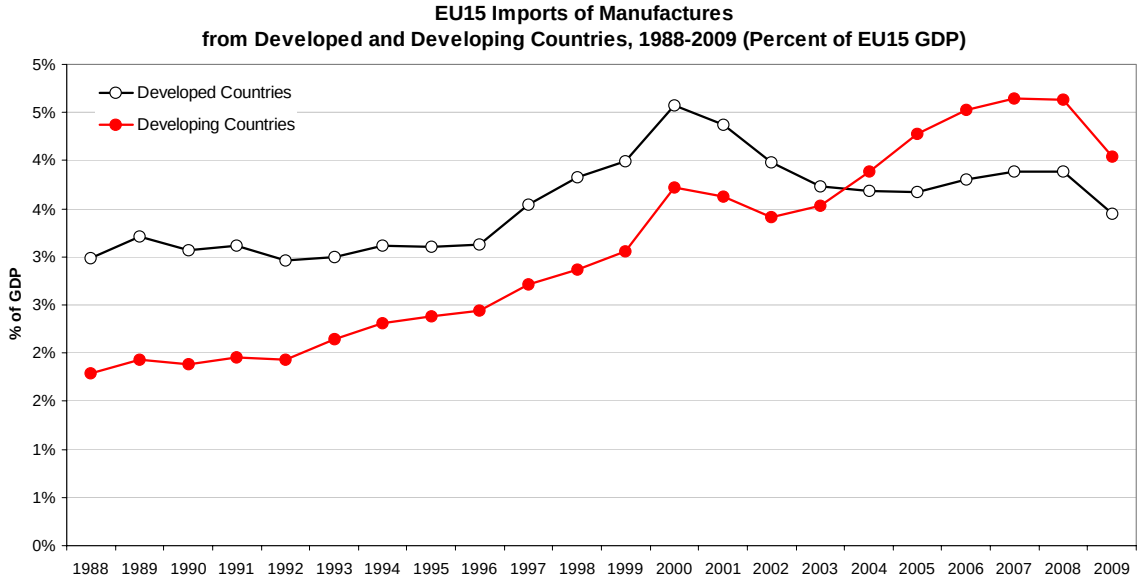
This section reviews the existing literature addressing the links between globalisation, trade opening, and job creation. The prevailing conclusion is that trade opening creates more jobs than it destroys and that most of the decline in industrial employment in the EU and other OECD economies is due to rapid labour-saving technical progress, not to trade opening. Trade openness is positively correlated with job creation. Protectionism by contrast reduces the competitiveness of companies and thereby destroys jobs. There is no general increase in unemployment in the EU, despite successive rounds of liberalization and substantial increases in imports from developing countries. Most of the reduction in industrial employment is due to technological progress rather than to import competition. However, increased labour market turnover and changes in the demand for different types of skills do engender a feeling of insecurity. This cannot be addressed with trade policy instruments; it requires active labour market policies. Evidence also shows marked differences between the dynamics of labour markets in the EU and in developing countries as a result of trade opening.

Dramatic changes have taken place in the actual volume and patterns of world trade in the last decades. Until the 1990s, developed countries were known as "industrialised" countries because they produced the bulk of manufactured goods. Developing countries were mainly exporters of primary products and some low-skilled manufactures such as textiles. Today, quite a few developing countries are much more industrialised than the former "industrialised countries". This is reflected in changing patterns of trade flows, as Figure 3 illustrates. Imports as a share of EU GDP rose from less than 5% in the late 1980s to nearly 10% in 2008[18]. Imports from developing countries rise faster than imports from developed countries. The latter are often perceived as less threatening to employment because they come from countries with wage rates that are comparable to those of the EU.

[17] Commission services estimates, based on symmetric I-O tables for the EU25 for 2000, prepared by the Institute for Prospective and Technological Studies (Sevilla) of the European Commission Joint Research Centre. The methodology used allowed to capture all downstream jobs throughout the EU associated with the production of inputs embodied in the goods and services exported outside the EU.

[18] GDP and trade volume are not directly comparable measures. GDP measures value-added in production while trade volume is measured at the total value of products.

Figure 3 EU15 trade with developing and developed countries (% of GDP)



Sources: Eurostat (Comext, Statistical regime 4; NewCronos), Comtrade (UN)
Developed Countries: OECD members (30 countries excluding South Korea, Mexico,Turkey, EU Member States)
Developing Countries: All other countries excluding EU Member States
Manufactures: SITC Rev.3: 5, 6, 7, 8 excluding 68, excluding 891

Note: Trade figures for constant EU15 membership, to avoid the bias created by EU enlargement to 27 Member States. Trade = sum of imports and exports of manufactured products.

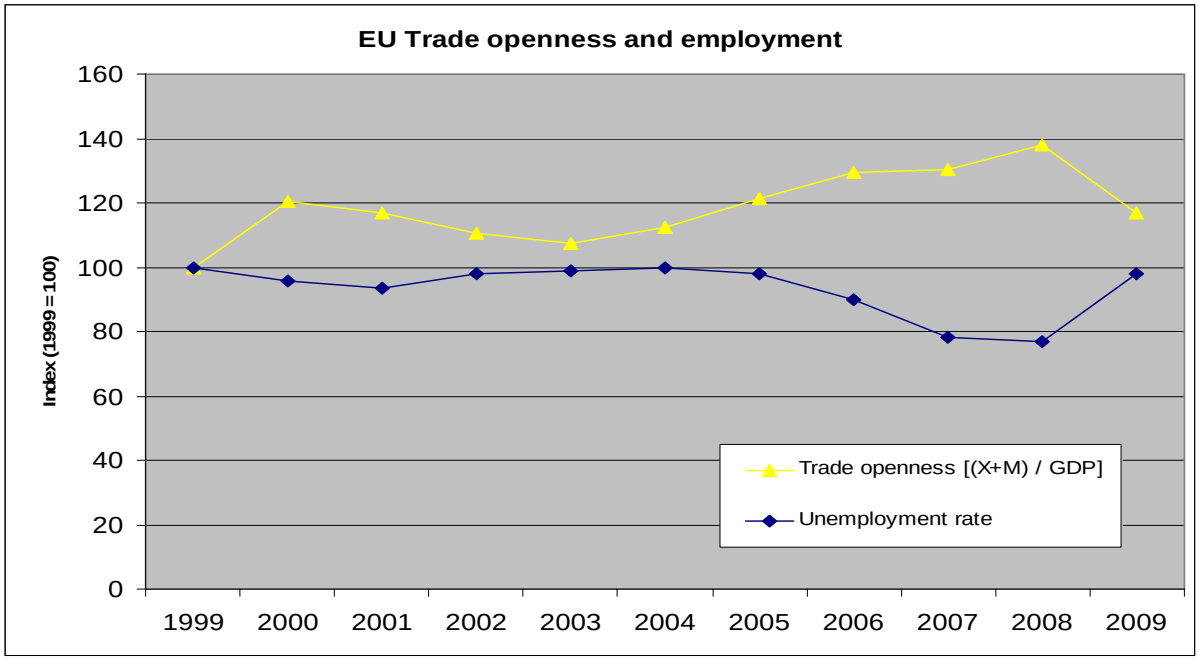
The rapid increase in imports from developing countries has led many observers to link the decline in manufacturing activities with the rise in unemployment in developed countries. Globalisation is seen as contributing to unemployment and job insecurity, unfair competition from low-wage low-standards countries, declining wages and rising income inequality. The rapid rise of China in the last decade as the premier industrial nation in the world has compounded this situation.

The economic crisis that started in 2008, has only added to these concerns. Unemployment in the EU has risen from 7% in 2007 to 10% in June 2010. Although the worst of the crisis seems to be over, many people remain wary about the impact on their job security and income. This has led to knee-jerk protectionist measures such as "buy local" and "hire local" clauses in economic stimulus programmes, coupled with trade restrictions of various kinds. Whereas in good economic times it is often taken for granted that trade opening will have a positive labour market impact, in times of crisis this ceases to be the case, despite the positive contribution that trade policy could make to economic recovery.

The available data confirm that increased trade openness has not led to a decline in overall employment in the EU or to increased unemployment. To the extent that trade stimulates growth (as discussed above) it will also increase employment, unless growth would be entirely jobless and purely driven by technological progress and productivity increases. Figure 4 illustrates this simple correlation between trade opening and employment in the EU: contrary to popular perception, there is clearly a negative correlation between unemployment and trade opening: more trade opening goes hand in hand with less unemployment. Of course, this graph only illustrates a correlation; it does not explain the causal links between these variables.

There is a misguided popular perception that trade opening destroys jobs and that only exports create jobs. While this may be true for individuals and individual firms, the reverse is true at the level of an entire economy. Trade openness facilitates the integration of local companies in global production chains. It makes them more productive and competitive, and creates more employment. More than two thirds of EU imports are imports of intermediate goods[19], many of them much needed to ensure the competitiveness of EU companies both in Europe and abroad. EU exports embody an increasing amount of imported intermediates (both from the Internal Market and the rest of the World). In 2005 the contribution of such imports to the total value of EU exports ranged from 19% in the UK to more than 50% in Member States such as Ireland, Estonia, Hungary and Luxemburg.

Figure 4 EU trade openness and employment



Source: European Commission, based on Eurostat data.

While there may be no decline in overall employment, a significant shift in employment from industries to services sectors is taking place, as shown in Figure 5. The fall in manufacturing employment is offset by an increase in services employment. This shift makes workers' unease about globalisation more understandable. It leads to turnover and friction in the labour market and contributes to workers' feelings of insecurity.

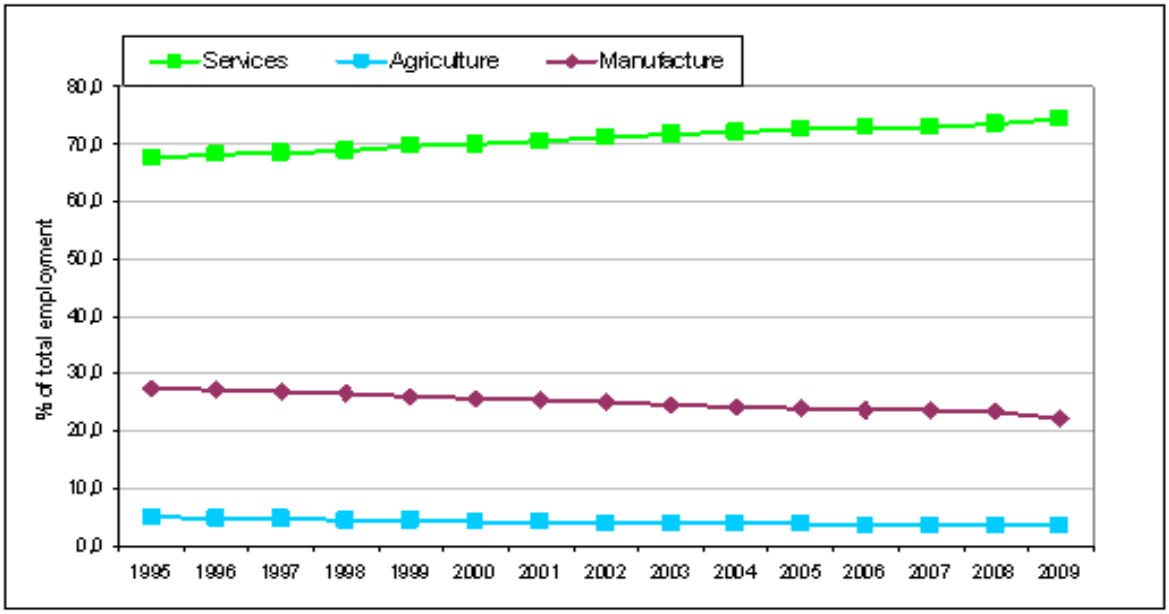
Several factors may have contributed to this shift in employment. Rapid technological progress in manufacturing processes that can be automated more easily than services tasks may be one important explanation. An OECD study[20] concluded that trade affects neither overall employment nor the unemployment rate, and that import penetration has no significant impact on labour demand. Other factors, such as technological change, are a more important cause of changes in employment patterns in industrialised countries. Clearly, in many

[19] CEPII/CIREM (2009) "The evolution of the EU and Member States competitiveness in international trade", available at http://ec.europa.eu/trade/analysis/chief-economist/

[20] OECD (2007) "Trade and labour market adjustments", document TAD-TC-WP(2007)7, May 2007.

industries, labour-saving technological progress has outpaced output growth, thereby causing a reduction in employment. Lastly, part of the shift of employment towards services sectors simply results from the statistical reallocation of outsourced services which previously were supplied within manufacturing enterprises (and thus counted as manufacturing employment).

Figure 5 Evolution of EU employment by sector



Source: European Commission, based on Eurostat data.

However, trade with low-wage countries can potentially also have a major beneficial impact on technical change. For instance, a study drawing on a panel of over 200,000 European firms shows that import competition led to both within-firm technology upgrading and between-firm reallocation of employment towards technologically more advanced firms or subsidiaries. These effects account for about 15-20% of technology upgrading between 2000 and 2007 and are growing over time[21]. Another recent study finds that technological change and globalisation are associated with wage increases in nine EU Member States[22].

Beyond the causes of the decline in manufacturing employment, we can also look at other dynamics in EU labour markets and the impact of trade. But trade may also have created a "polarisation" of employment in recent years[23]. Employment has been growing both in the high-skilled (professional and managerial) jobs and in the lowest-skilled (personal services) jobs, whereas there was a decline in medium-skilled jobs in manufacturing and routine office jobs.

[21] Nicholas Bloom, Mirko Draca, John Van Reenen (2009): "Trade induced technical change? The impact of Chinese imports on innovation, diffusion and productivity", Stanford university working paper.

[22] R. Christopoulou, J. F. Jimeno, A. Lamo (2010) "Changes in the Wage Structure in EU Countries", ECB Working Paper No. 1199, April 2010.

[23] M. Goos, A. Manning, A. Salomons (2009) "Job polarization in Europe", American Economic Review, 2009 vol 99(2) pp 58-63.

The polarization of employment is not unique to the EU; it has also been observed in the US[24]. In the 1980s, employment at the bottom of the educational ladder was declining and it increased as education levels rose. In the 1990s and 2000s, employment growth has been concentrated in the lowest skilled and the highest skilled jobs. Goos et al. test two potential causes of these changes in the observed job structure for 16 EU Member States, namely task-biased technological progress and off-shoring. Their results support the routinization hypothesis: technology can more easily replace human labour in routine tasks, such as manufacturing jobs. The estimated employment impact of off-shoring is much smaller and less pervasive than technological progress.

This leads to the conclusion that it is technological progress rather than trade opening that is driving the decline in manufacturing jobs. Trade policy instruments are unable to address these employment concerns. Other types of policy instruments, such as active labour market and re-training policies, and income redistribution policies to address income inequality concerns, are more appropriate.

Among the developing countries, emerging market economies have successfully made use of their comparative advantage in low-skilled labour and integrated themselves in the global economy. They have registered high GDP and employment growth rates. Others countries didn't – mostly the least developed economies. Emerging market economies saw a major shift in labour from low-productivity agricultural employment to higher-productivity industrial employment. In China for instance, hundreds of millions of workers moved from rural agriculture to urban manufacturing employment, mostly in coastal areas.

Several other interactions may add to the complexity of trade-labour interlinkages in developing countries. For instance, research has shown that a decline in tariffs on *outputs* reduces wages in firms that sell in the domestic market but raises wages in firms that are export oriented. In turn, a decline in tariffs on *inputs* raises wages in firms using more imported inputs but reduces wages in firms that do not import inputs. In short, the more globalised the firm the more positive the impact of tariff opening on wages[25]. In developing countries unskilled workers in expanding sectors gain while they lose in the previously protected sectors. However, the problem is that, for understandable socio-political reasons, many countries often protect sectors that employ large numbers of unskilled workers while expanding export sectors employ the most skilled workers, even in countries that have an abundance of unskilled workers. This prevents the expected benefits of trade opening from being evenly distributed.

In summary, developed countries have experienced a noticeable decline in manufacturing employment mostly due to rapid technological progress but the decline has been more than compensated by an increase in services employment. Wages increased for those remaining in manufacturing, despite a considerable degree of labour churning and declining job security. However wages for workers who have moved to services sectors may decline unless they are based on high skill levels. On balance however, total employment in developed countries increased, and incomes rose because technological progress, combined with global trade opening, drove further specialisation and the skill premiums that go with specialisation.

[24] "The Growth of Low-Skill Service Jobs and the Polarization of the U.S. Labor Market", David Autor and David Dorn, MIT Working Paper, August 2010. Paul Krugman (2008) "Trade and wages reconsidered", Brookings Papers.

[25] Mary Amiti & Donald R. Davis, 2008. "Trade, Firms, and Wages: Theory and Evidence," NBER Working Papers 14106, National Bureau of Economic Research.

Manufacturing employment in emerging markets increased strongly, as did wages. Developed and developing countries alike saw an increasing skills premium on wages, leading to greater income inequality. Labour market concerns in developed economies are not only about overall (un)employment levels but also about job insecurity and turnover, and possible wage losses in that process, combined with the inequities of growing income inequality because of skills premiums.

It is the responsibility of the Member States to put in place the appropriate social, educational and labour market flanking measures to tackle these potential risk factors associated with trade opening, as part of the European Employment Strategy. The Commission promotes these social policies, including decent work and corporate social responsibility, with the EU's main trading partners, in international fora (i.e ILO, G20, OECD, UN) and in bilateral and regional cooperation settings (notably the US, Canada, China, India, Japan, South Africa, Russia and Brazil, and ASEM and Latin America).

To assist the Member States' efforts, the European Union has created the European Globalisation Adjustment Fund.

Box 2 The European Globalisation Adjustment Fund (EGF)

The EGF is designed to help those workers who lose their jobs as a result of changing global trade patterns, so that they can be reintegrated into employment as quickly as possible. The EGF complements national policies. Up to € 500 million per year can be used for retraining and job search activities, and other active labour market measures in shared management with the Member States. The potential budget looks sufficient for the time being but will be reviewed in the context of the Multiannual Financial Framework. An increase should be considered if the eligibility criteria are broadened. It is not always straightforward for the applicant Member States to find official and recent data in support of their cases.

Other EU funds with similar purposes include the European Social Fund (ESF) and the European Regional Development Fund (ERDF). The ERDF also supports long-term structural adjustment through investments in R&D, innovation and ICT.

The ESF can also be used for training, structural reforms and employment creation and provides a longer term support, in contrast to the EGF which provides support on a one-off time-limited basis. Any sector can benefit from funding, including agriculture. However, since the issues faced by agricultural workers are rather different, this sector might be better supported by other Funds. Furthermore, most of the workforce in agriculture is self-employed. National measures and certain funds under the Common Agricultural Policy (CAP) are available in order for them to adapt to structural changes. There might be potential for improving the assistance provided to the agricultural sector in order to help it adjust to the effects of globalisation.

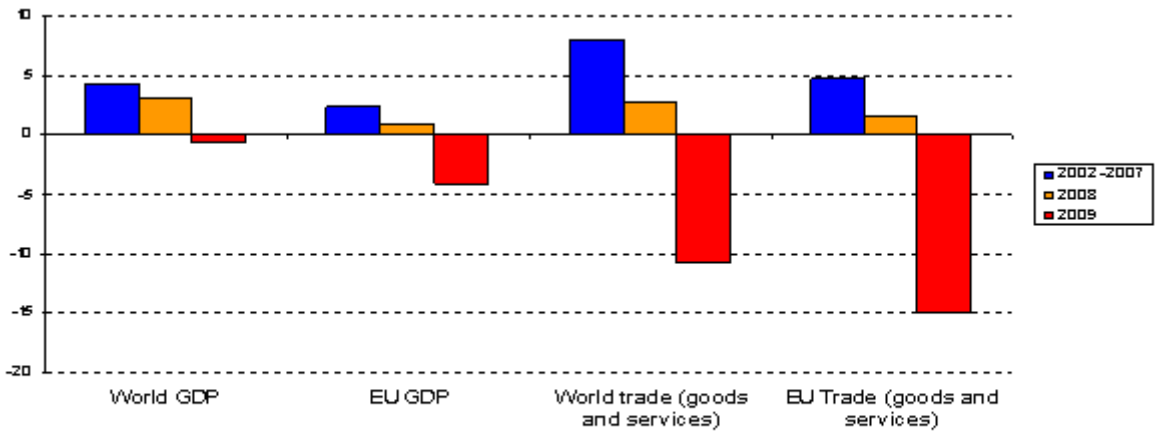
Whereas the EGF has only been in operation since the beginning of 2007, the US has a somewhat similar programme since 1962, known as the Trade Adjustment Assistance (TAA). There are three different TAAs; one for workers, one for firms and one for farmers. The TAA for workers only covers certain sectors, and also pays for unemployment and health insurance. It has a flexible and ambitious training programme. The TAA for farmers was created in 2002

and amended in 2009. It helps producers of raw agricultural commodities (not processed agricultural products) and fishermen adjust to changing economic environment associated with import competition. To be eligible farmer have to suffer a 15% decrease in national average price, quantity of production, value of production, or cash receipts compared to the average of the three preceding marketing years, and imports have to contribute significantly to this decline. In 2010, the producers of three commodities were certified as eligible for TAA: asparagus, catfish and shrimp. Technical assistance and cash can be provided to develop and implement business adjustment plans (up to $12.000).

3) THE IMPACT OF THE ECONOMIC CRISIS ON TRADE

The previous section presented a longer-term view of the positive link between trade openness, growth and employment. Some have questioned whether this view remains valid in times of economic crisis. Here we explore the trade policy aspects of the 2008-2009 economic crisis and argue that trade openness is still the best policy solution. The crisis may have changed economic prospects among regions, but trade will be fundamental to fostering the recovery of global growth.

Figure 6 Annual variation in GDP and trade (in %)



Source: IMF, Eurostat

The financial crisis of 2008, which erupted in the real estate and banking sector in the US, quickly spread to credit markets across the globe and spilled over into non-financial "real" economy sectors. The result was a full blown global recession and an almost unprecedented contraction of world trade (see Figure 6) mainly driven by the sharp and synchronised slump in demand on key markets, in particular for investment goods and consumer durables which make up a large part of international (and EU) trade. Trade in goods and services fell 11.3% worldwide in 2009, the largest annual decline since the Great Depression[26]. Europe was also hit hard and its exports fell back to 2005 levels at the peak of the crisis between August 2008

[26] IMF World Economic Outlook, July 2010.

and June 2009. For 2009 as a whole, the volume of EU exports of goods and services were down 15.6% while imports declined by around 14%.

The scale and speed of the contagion of the downturn took many by surprise and provided a stark reminder of how integrated global markets have become. Trade was not a cause of the crisis but from the outset there were concerns that the heavy social burden of the crisis could trigger a wave of protectionist measures, as in the 1930s and 1970s, which would have deepened and prolonged the crisis[27]. However, the WTO legal framework and trade disciplines proved their worth by substantially reducing the scope for the introduction of protectionist measures, especially with regard to tariff increases beyond "bound" levels agreed at the WTO. Furthermore, the awareness of the lack of binding WTO disciplines on non-tariff barriers led to a preventive and internationally coordinated pledge to keep markets open, buttressed by repeated pro-trade commitments from the G20.

Box 3 Why did trade fall so sharply in 2008-2009?

The consensus among analysts and policymakers is that the fall in trade was primarily a consequence of the sharp and synchronised slump in demand on key world markets following the deterioration of consumers and investors' expectations in the wake of the near collapse of the global financial system in 2008[28]. The contraction of demand was most pronounced in investment goods and consumer durables that make up a larger share of global (and EU) trade than output, which led to trade activity contracting more than proportionally in relation to output. Other factors have also contributed to the contraction of global trade activity, particularly the drying up of short-term trade finance. The development of extensive cross-border production linkages over the past decades has also been highlighted by many as a factor exacerbating the global trade collapse. However, the analyses around this issue remain inconclusive. The international fragmentation of production can indeed contribute to propagate the demand shock across the world, which intensifies the global trade contraction[29]. However, its role in exacerbating the fall in trade relative to the fall in output is less straightforward. On the one hand, global production chains magnify the decline in trade associated when new obstacles to trade emerge (such as shortage of trade finance and the introduction of protectionist measures). On the other hand, the sunk costs of putting together international production chains and the long-term contractual ties linking the firms involved may alleviate the drop in trade in the face of an adverse shock in demand. Moreover, if trade finance is in short supply, there is more scope for intra-firm financing instruments to pick up some of the slack in the banking sector.

[27] The global economic downturn caused an unprecedented 34 million job losses worldwide since 2007, taking the number of unemployed people to over 212 million in 2009 and the global unemployment rate to a peak of 6.6%, see ILO, "Global Employment Trends", 2010, available at: http://www.ilo.org/public/libdoc/ilo/P/09332/09332%282010-January%29.pdf. B. Eichengreen and D. Irwin, "The slide to protectionism in the Great Depression: Who succumbed and why?" NBER Working Paper No. 15142, 2009, and F. Erixon, "Protectionism is on the rise", available at: http://www.voxeu.org/index.php?q=node/3074.

[28] For a detailed analysis see: R. Baldwin (ed), "The great trade collapse: causes, consequences and prospects", a VoxEU.org publication CEPR, 2009, available at: http://www.voxeu.org/index.php?q=node/4297.

[29] It is important to keep in mind that in many economies it is increasingly the case that not only exports but also imports are dependent on foreign demand.

Nevertheless, protectionism has not been fully contained. There has been some slippage - albeit limited - in a number of countries (including most G20 partners). The WTO estimated that, between October 2008 and October 2009 new import restrictions introduced by G20 members affected not more than 1% of world imports[30]. By mid-February 2010 the volume of world imports potentially affected by additional measures had fallen to 0.4%. At the peak of the crisis, around 1.7% of EU merchandise exports were affected[31]. The important trade policy lesson to be learned here is that, at a time of major strain, the WTO proved its worth. However, it is important not to overlook the loopholes in the multilateral trade rules that provide scope for protectionism to emerge via "beyond-the-border" barriers (particularly the introduction of discriminatory subsidies and "buy local" public procurement practices).

Box 4 Multilateral rules and EU trade interests in the global economic crisis

Most new border restrictions (including tariffs, quotas, import licenses, reference prices, and import bans) were imposed by few relatively small EU trading partners. Russia, which is not yet a WTO member, was the clear exception, offering a glimpse of what might have happened without the current WTO trade rules. The border measures introduced by Russia between October 2008 and October 2009 accounted for almost three quarters of the 1.7% of EU global exports that were affected by protectionist measures. This shows the importance of the WTO in preventing a 1930s-style protectionist spiral. Although WTO members countries such as Bolivia, South Africa, Egypt, and Indonesia have made extensive use of their "policy space", including raising applied tariffs to bound levels, the WTO system of rules has effectively provided a legal basis for the withdrawal of trade-damaging policy initiatives by Ukraine and Ecuador, countries which resorted to inappropriate trade measures to tackle balance of payment crises.

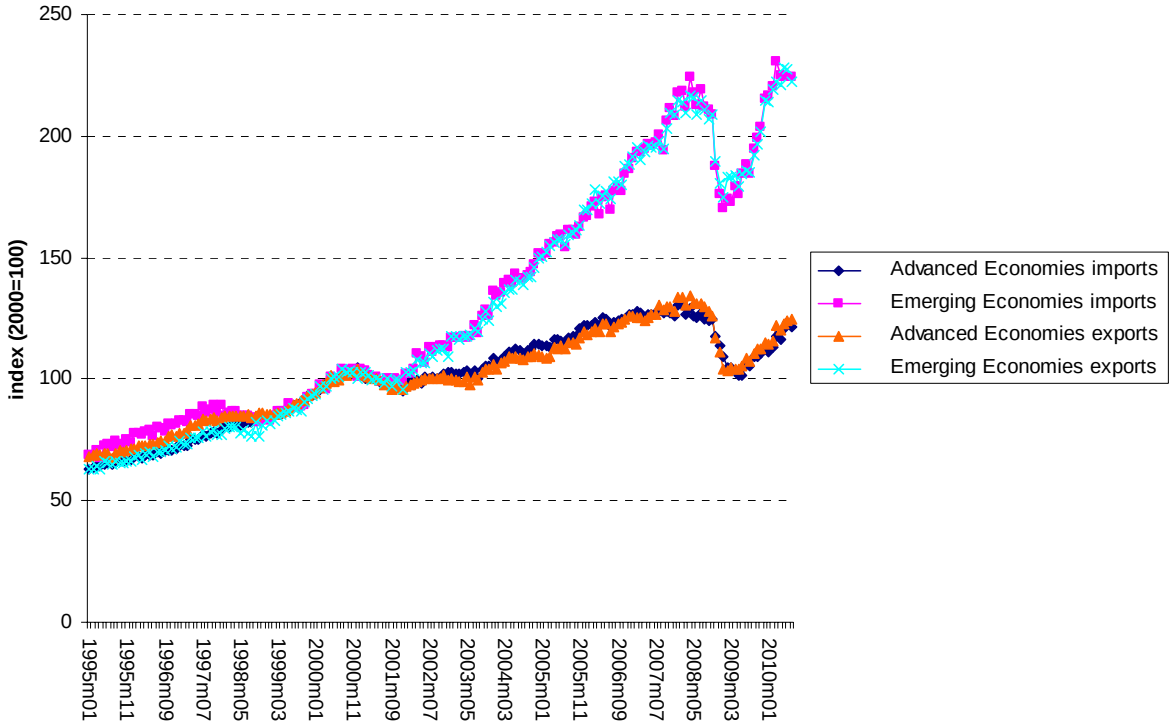
By the end of 2009, the world economy started to recover more quickly than expected on the back of historically loose fiscal and monetary policies, and so did trade. By June 2010, global trade volumes had climbed 24% above their lowest point, which was in May 2009 (although they were still 2% below the April 2008 peak). This rebound is expected to continue as world trade volumes are set to expand by 9% in 2010 and by 6.3% in 2011[32].

By contrast with previous global downturns, the current recovery is being led by the emerging economies, which have rapidly returned to the impressive pre-crisis growth rates, after a sharp slowdown to 2.5% in 2009[33]. This renewed economic dynamism is associated with a strong rebound in trade flows across these economies, which bounced back to pre-crisis levels (see Figure 7). Although some of this trade expansion is intra-regional (in particular across Asia given the buoyant demand in the region) it nonetheless provides crucial support to the

[30] See 2nd joint report by WTO, OECD and UNCTAD for the G20 on the monitoring of the crisis-related trade and investment related measures, March 2010. Downloadable at: http://www.unctad.org/en/docs/wto_oecd_unctad2010d1_en.pdf
[31] Between October 2008 and October 2009.
[32] IMF World Economic Outlook, July 2010.
[33] Around 6.5% is foreseen for in 2010-11, according to the IMF World Economic Outlook, July 2010.

recovery in developed economies, including the EU, where the macroeconomic situation remains more tenuous.

Figure 7 Evolution of trade volumes (January 1995 – May 2010)



Source: CPB World Trade Monitor. Advanced economies are defined as OECD excluding Turkey, Mexico, Korea and Central European countries.

The major financial and economic shock which many advanced economies (notably the EU and the US) experienced in 2008/2009 will have lasting consequences for the public, private and financial sectors, which could hold back domestic demand (also weakened by high levels of unemployment) for some time to come. In particular, the unprecedented expansion of public spending to stabilise these economies is giving way to increased pressure to consolidate fiscal positions; a process that will weigh on their short-term growth prospects[34].

In the EU, the process of fiscal adjustment was precipitated in order to respond to investors' concerns about the future of the euro-area. Moreover, the recovery from the unprecedented 4.1% contraction in GDP suffered in 2009 will be further slowed down by long-standing structural weaknesses of the European economy (in particular product and labour market rigidities)[35,36]. If the current growth forecasts prove correct, it could take more than three

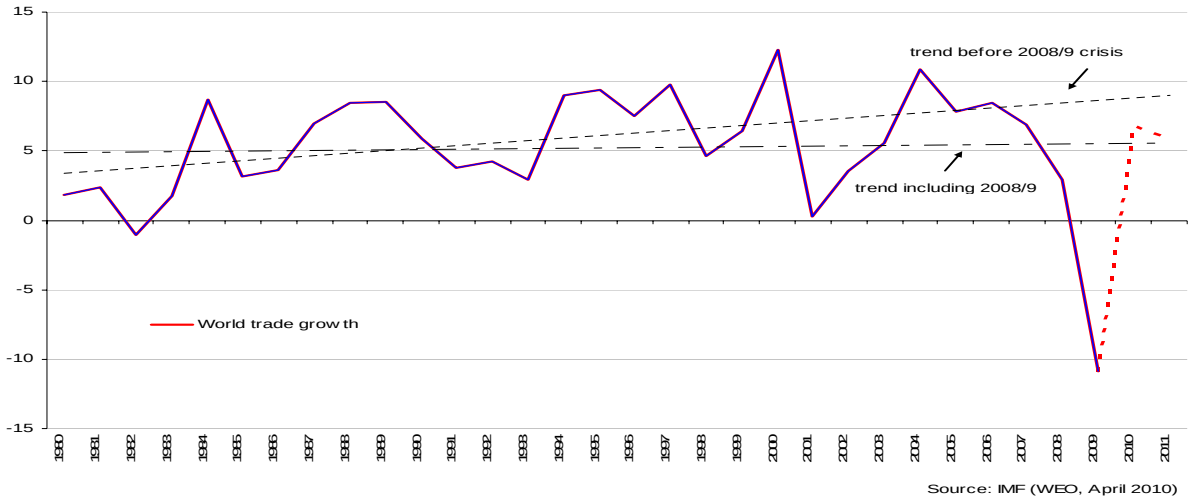
[34] Advanced economies are expected to expand by 2.6% in 2010 and 2.4% in 2011, following a decline in output of 3.2 % in 2009, see IMF World Economic Outlook, July 2010.

[35] "The evolution of EU and its Member States' competitiveness in international trade", report for DG Trade, downloadable at: http://trade.ec.europa.eu/doclib/docs/2009/march/tradoc_142475.pdf

[36] EU exports of goods and services (in volume) are due expand 5% in 2010 and 5.2% in 2011, see European Economic Forecast: Spring 2010, downloadable at: http://ec.europa.eu/economy_finance/publications/european_economy/2010/pdf/ee-2010-2_en.pdf

years for output in Europe to return to pre-crisis levels, and unemployment is unlikely to fall below 10%[37] (see Figure 8)

Figure 8 Growth in global trade 1980-2011 (annual % change)



Note: Global trade is measures as worldwide import volumes of goods and services. The figures for 2010 and 2011 are based on IMF forecasts in the World Economic Outlook, April 2010.

Nonetheless, the shifting of the burden of the global recovery away from developed economies towards emerging economies is likely to weigh considerably on the future prospects for global trade growth[38]. Although the long-term rise of the developing and emerging countries is set to accelerate, the advanced economies were absorbing as much as 50% of world imports before the crisis [39,40]. The question arises as to whether the dynamism of emerging economies alone will be sufficient to take up the slack and sustain global demand growth in the coming years.

4) GLOBAL TRADE IMBALANCES

Against this background of relatively subdued demand growth in some key world markets in the medium-run, a sustainable growth path for global trade requires that the ongoing process of macroeconomic adjustment must also include a greater contribution to world aggregate

[37] The EU Commission, IMF and World Bank macroeconomic projections converge in pointing to an EU GDP growth rate of around 1% in 2010. For 2011, EU GDP is foreseen to grow less than 2%.

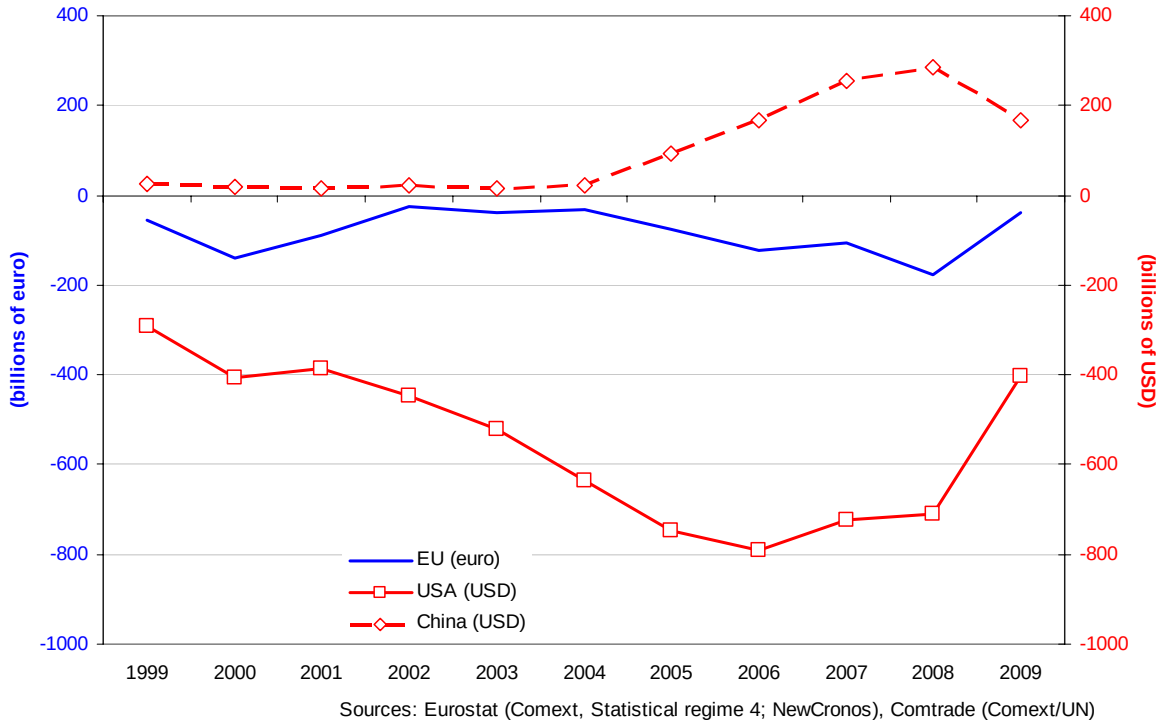
[38] Trade growth will also be affected in the medium-run by new regulations to be introduced in the financial sector in the wake of the crisis of 2008-9. The revision of the prudential framework for banks (Basel III) may bring the rules governing trade and export finance in line with other financial instruments.

[39] Some long-term projections point to a 60% share of world GDP by 2030 (up from around 50% in 2010), see OECD, "*Perspectives on Global Development: Shifting Wealth", 2010*

[40] The share of imports EU27, US, Japan, and Canada in total world imports of goods totalled 46.5% in 2007 (Source: WTO, Eurostat).

demand from those economies (both advanced and emerging) which ran large current account surpluses. Such a process would also place the world economy on a sounder footing by contributing to the orderly unwinding of the global imbalances that have built up over the past decade. The substantial increase in China's trade surplus since 2004 - mirrored by a deterioration of the US trade balance - is widely regarded as a major source of instability for the global trade and financial system. Despite some reduction in 2009, recent data suggest that these trade gaps widen again as the global economy moves out of the crisis.

Figure 9 Trade balance (goods and services) for the EU, US and China



It is important to bear in mind that the growing internationalisation of production processes which we have witnessed over the past decades strongly advises caution in interpreting these bilateral trade gaps in particular as regards the conclusions to be drawn about the competitiveness of different industries vis-à-vis other trade partners. For some countries, such as China, looking at gross trade flows leads to overestimating the "true" value of exports and to inflating trade surpluses vis-à-vis other countries due to the high incorporation of imported inputs in domestic production[41,42]. Nonetheless, at a macroeconomic level the issue remains as

[41] Estimates for the gap between trade in value added terms and gross terms vary greatly across bilateral trade relation even among developed economies. US exports to Canada are found to be 50% smaller measured in value added terms than grows terms whereas US exports to France the two measurements show no significant difference in 2001. Estimates for US-China trade show that imbalance is approximately 15-30% smaller when measured in value added rather than gross terms, see R. Johnson and G. Noguera, "Accounting for intermediates: production sharing and trade in value added", *mimeo*, 2009.

trade gaps reflect an underlying situation in which excessive aggregate consumption in deficit countries is matched by excessive savings in the surplus economies.

The role of exchange rates in an adjustment such as this is difficult to pin down. Market-based exchange rate adjustments can in principle contribute to the unwinding of global trade imbalances. The absence of such a mechanism for the renminbi, which until June 2010 was pegged to the US dollar, is generally identified as a major factor behind China's large and persistent trade surpluses[43]. This is putting China in the spotlight, facing accusations of keeping the currency artificially undervalued in order to boost export competitiveness at the expense of trade partners[44]. A broad-based appreciation of the renminbi, together with appropriate structural reforms can have a positive impact on China's economy as well as the global economy.

The value of the Euro has fluctuated considerably since its introduction in 1999. However, the appreciation of the euro since 2001 has not prevented a steady increase in euro-area trade surpluses (excluding volatile energy products), as can be seen in Figure 10. This does not mean that fluctuations in the value of the euro have no impact on EU trade flows. On the contrary, recent empirical analyses suggest that euro-area trade flows respond significantly to exchange rate variations[45]). All things being equal, a depreciation of 1% in the value of the real exchange rate of the euro is due to lead to a long-run 0.5% increase in the value of exports and to a 0.6% long-run decrease in the value of imports[46]. However, this effect might be overtaken by macroeconomic changes. More specifically, during most of the last decade the rising demand for EU goods in emerging market economies may have offset the negative impact on EU exports one, which would normally be expected from an appreciation of the euro[47].

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[42] R. Koopman, Z. Whang, and Shang-Jin Wei, "How much of Chinese exports is really made in China? Assessing domestic value-added when processing trade is pervasive", NBER Working Paper 14109, 2008.

[43] China's market interventions have also led to the build up of massive foreign currency reserves, which have trebled since 2005 to a peak of $ 2.4 trillion by December 2009.

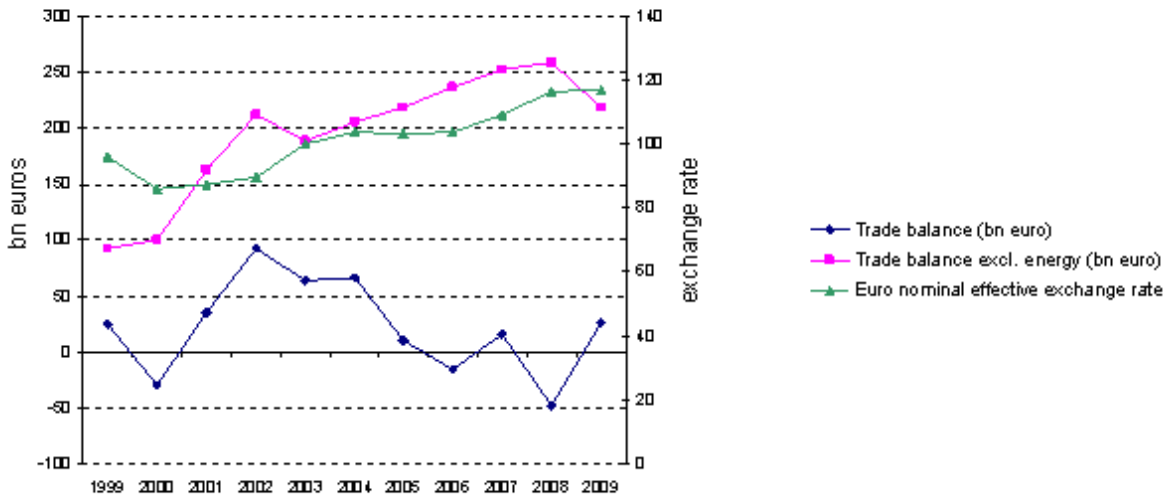
[44] Several estimates point to the likely undervaluation of the renminbi albeit in varying degrees (from -50% to -3%) due to different methodological approaches and sample sizes, see for example W. Cline, "Estimating consistent fundamental exchange rates", Working paper 08-6, Peterson Institute for International Economics, 2008; A. Benassy-Quére, S. Bereau and V. Mignon, "Equilibrium exchange rates: a guide book for the euro-dollar rate", CEPII working paper 2008-02, CEPII, 2008; Y. Cheung, M. Chinn and E. Fujii, "China's current account and exchange rate", NBER working paper 14673, 2008; H. Reisen, "Is China's currency overvalued?, in S. Evenett (ed.) "The US-Sino currency dispute: New insights from economics, politics and law", a VoxEU.org publication CEPR, 2010, and A. Subramanian, "New PPP-based estimates of renminbi undervaluation and policy implications, in S. Evenett (ed), "The US-Sino currency dispute: New insights from economics, politics and law", a VoxEU.org publication CEPR, 2010. In general, more recent estimates point to a reduction in the degree of undervaluation of the currency. However, given the statistical and data uncertainties definite claims in this regard are difficult to make. For a more in-depth discussion see also: http://www.voxeu.org/index.php?q=node/1636.

[45] European Commission, "Quarterly report on the Euro Area", (9(2), 2010, p. 6-7.

[46] The increasing cross-border fragmentation of production processes also has an impact on the responsiveness of trade flows to variation in exchange rates. More specifically, as exported output makes greater use of imported inputs, the elasticity of exports to exchange rate variations is due to decrease because, in case of appreciations, firms benefit from lower import prices of intermediates.

[47] The identification of clear cut effects of exchange rates adjustments is further complicated if the nature of the underlying shock (e.g. changes in investors' risk premium, market intervention,…) is taken into account. This may fundamentally determine the global outcome in the long-run given that second round effects on demand and capital flows may offset (particularly or fully) the initial effects associated with changes in price competitiveness positions among trading partners.

Figure 10 Euro area trade balance and nominal effective exchange rate



Source: Comext , ECB (nominal effective exchnage rate computed against basket of 12 currencies: AU, CA, DK, HK, JP, NO,SG, KR, SE, CH, UK, US)

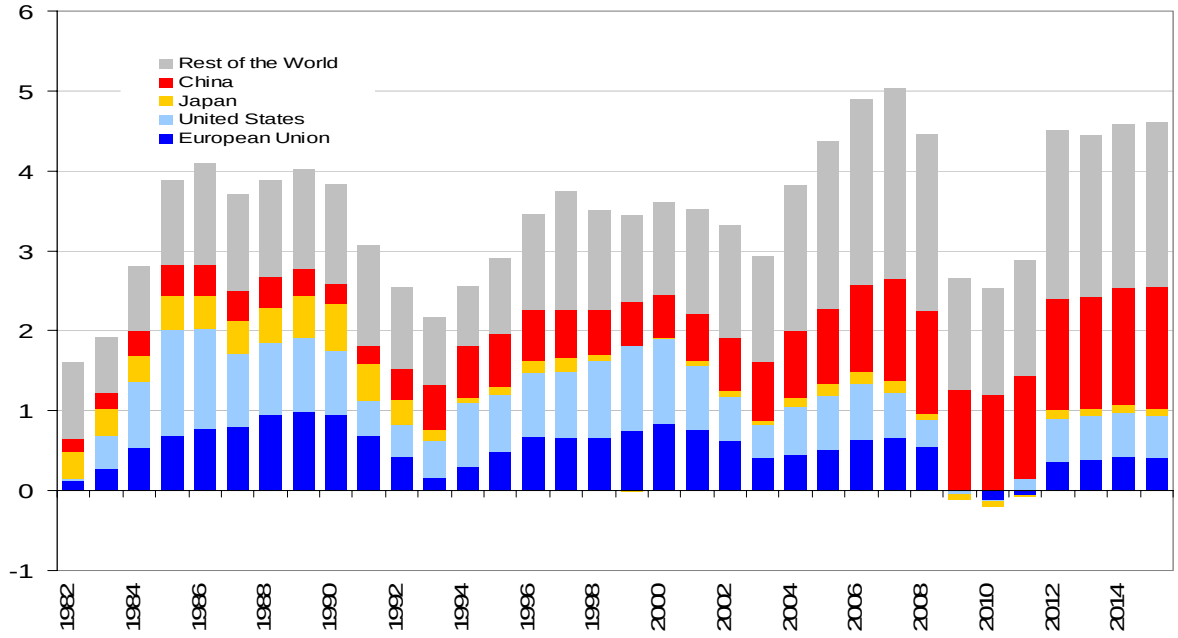
To conclude, at this point in time a policy objective consistent with the long-run stability of the world economy should be for countries with unsustainable external imbalances to move closer to more balanced current account positions. The challenge is to steer the necessary rebalancing of the world economy mainly on the basis of coordinated macroeconomic policymaking (and through the implementation of structural reforms to manage the necessary domestic adjustments), and to avoid the temptation to use trade policy either to accelerate or hamper the process, as this would only lead to a reduction in global welfare.

This move towards a more balanced world economy, which will increasingly rely on the dynamic emerging countries to support global demand, will form the backdrop against which the EU economic policy over the coming years must be defined. Simultaneously faced with the twin challenge of fiscal consolidation and curbing unemployment, the EU must project itself into a path of higher potential growth through a combination of structural reforms and greater openness to trade if it is to remain competitive in the new global economic landscape. Trade openness will provide not only a source of new demand (particularly in the emerging market economies), but also much needed efficiency gains by providing access to lower cost inputs, exposure to competition pressure and incentives to innovation. The role of trade policy will be crucial in ensuring that potential market opportunities translate into additional businesses and jobs.

III THE CURRENT STATE OF BARRIERS AFFECTING EU TRADE

In the aftermath of the 2008-2009 economic crisis, the overall objective of the EU, as confirmed in the European Commission's Europe 2020 Strategy[48], is to stimulate smart, sustainable and inclusive economic growth and jobs. The bulk of global economic growth in the next couple of years is expected to come from Emerging Market Economies (EMEs). Economic growth in high-income countries, including in the EU, is expected to remain rather subdued as a result of weak domestic demand resulting notably from continued pressure on governments to balance their budgets. A rebalancing of macro-economic policies is required to unwind global unbalances in an orderly manner. Growth in EMEs will need to be more domestic demand driven. That rebalancing should be achieved through domestic economic policy instruments, not trade policy instruments.

Figure 11 Contributions to global GDP growth (in %, PPP basis , 3 year moving average)



Source: IMF World Economic Outlook October 2010

Growth in the EU will need to come primarily from exports, structural reforms and innovation. This will require close coordination of EU trade and domestic policy instruments.

EU trade policy instruments contribute to the overall objective of growth and jobs. Bilateral free trade negotiations to improve market access for EU exports in EMEs were already launched under Global Europe. Once these Free Trade Agreements (FTAs) will be in force, tariff barriers for EU exports to most EMEs will be close to zero. EU import tariffs are already very low and will be further reduced by these FTAs, thereby improving competitive

[48] See http://ec.europa.eu/eu2020/index_en.htm

supplies for EU industries. The only remaining significant tariffs will then be limited to trade between the EU and its most important trading partners: the US, Japan, China and Russia. Completion of the multilateral Doha Development Agenda (DDA) negotiations would further reduce these, except for Russia which is not yet a WTO member. The EU is already among the most open economies in the world, but does not always face the same level of access in other countries. The EU should remain an open economy, but not a disarmed economy.

Box 5 The economic benefits of WTO membership

The evolution of the multilateral trading system under the GATT and WTO has led to the creation of a strong set of rules and a well-functioning organization. In addition to the global set of rules, the WTO is also providing the legal basis for ensuring compliance through its dispute settlement system. At the same time however, it is also true that developed countries have pursued trade liberalization to a greater extent and in more areas covered by the WTO agreements than developing country members. For instance, under successive rounds of trade negotiations, developed countries have successfully reduced their average tariffs from over 15 percent in 1947 to about 4.5 percent today.[49] For instance, world imports are higher by about 120%, compared to a "world without WTO" counterfactual.[50]

But this "pro-trade" WTO effect is uneven across countries and sectors. Perhaps unsurprisingly, the benefits of WTO membership are also strongly correlated to the degree of participation in the system by different countries and the depth of their commitments. Hence, developing countries seem to have benefited less from the WTO system, particularly in those multilateral rounds where their participation was limited. The same story holds true for sectors that were subject to ambitious trade liberalization and those that were exempted or subject to various exceptions and flexibilities.

WTO membership is also found to promote trade at the "extensive margin", i.e. not only to expand existing trade volumes but also to act as a "trade facilitator" and diversify the set of exported products. WTO membership is associated with lower levels of export concentration and WTO members have 12 percent more trading partners than non-members.[51]

The trade costs of non-tariff barriers remain high however, due to regulatory differences between trading partners, barriers to services trade and investments, and restricted access to public procurement markets. Trade agreements can address these non-tariff barriers to some extent. However, the modern consensus in international economics is that openness needs to be combined with domestic institutional and regulatory reform in order to successfully drive economic growth. That requires a seamless connection between internal and external policy reforms. In order to strengthen the EU's competitive edge in global markets and enable EU citizens and workers to benefit more from globalisation, domestic regulatory reforms should

[49] Arvind Subramanian and Shang-Jin Wei, 'The WTO Promotes Trade, Strongly But Unevenly', Journal of International Economics 72 (2007) 151–175.
[50] Subramanian and Wei, op. cit.
[51] Felbermayr and Kohler, "Does WTO membership make a difference at the extensive margin of world trade?", CESIFO working paper nr 1898, January 2007.

be carried out while bearing in mind their impact on the global competitiveness of EU industries. This chapter provides evidence on the level of regulatory and services trade barriers and the potential benefits for a reduction in regulatory differences among major partner countries. In order to ensure inclusive growth and job creation, labour market flanking measures need to be put in place to address the structural changes taking place in European labour markets, mainly as a result of rapid technological progress, both at home and in partner countries, and the re-organisation of industries and services along global production supply chains.

1) TARIFFS ON GOODS

Under the terms of the WTO agreements, countries are not normally allowed to discriminate between their trading partners. This principle is known as most-favoured-nation (MFN) treatment. However, some exceptions are allowed. For example, countries can set up a free trade agreement (FTA) that applies only to trade within the group of countries party to such FTA and discriminating against goods from outside, or they can give developing countries unilateral access to their markets.

As a result of numerous bilateral and regional preferential trade agreements and unilateral schemes, including the Generalised System of Preferences (GSP) for developing countries, the EU MFN regime applies to only nine WTO Members - Australia, Canada, Taiwan, Hong Kong, China[52], Japan, Korea, New Zealand, Singapore and the United States.[53] It also generally applies to non-WTO members unless they are eligible to any other form of preferences.

The preferential treatment which countries enjoy on the EU market varies according to whether a country (i) is entitled to preferences under the GSP (including the Everything but Arms (EBA) initiative)[54], (ii) has signed a bilateral or regional FTA, including Economic Partnership Agreements (EPAs), with the EU, or entered into a customs union with the EU (Andorra, San Marino and Turkey).

Table 3 distinguishes between three broad categories of EU trading partners:[55]

- countries that have operational free trade agreement (FTA) or customs union with the EU
- countries with on-going or planned FTA negotiations with the EU, or concluded but not yet implemented FTAs, and

[52] China has to a large extent graduated from the EU's generalised system of preferences (GSP) so de facto MFN tariffs apply to all but 150 million Euro of China's imports into the EU.
[53] FTA negotiations with Korea are concluded and negotiations are on-going with Canada and Singapore.
[54] The objective of the GSP is to contribute to the reduction of poverty and the promotion of sustainable development and good governance. All developing countries are eligible.
[55] See lists of EU ongoing and existing preferential (trade) agreements at http://trade.ec.europa.eu/doclib/docs/2006/december/tradoc_118238.pdf and http://trade.ec.europa.eu/doclib/docs/2006/december/tradoc_111588.pdf. The EU has bilateral trade agreements for textile products with Belarus, Russia, Serbia, and Uzbekistan. Only textiles originating in Belarus are subject to quantitative restrictions. Quantitative restrictions also apply to EU imports of textiles from the Democratic People's Republic of Korea.

- countries with which there are no on-going or planned negotiations for FTAs. These include the EU's main trading partners: US, Japan, China and Russia.

In 2009, EU goods imports totalled €1,200 billion. In terms of industrial products, the first two groups of countries account for a little more than 20% each, while the third group accounts for more than 55% of EU imports (see Table 4). The remaining 5% of EU imports come from remaining countries, most of which are relatively small in economic terms. EU goods exports amounted to close to €1,100 billion in 2009. The shares of the first two country groups in total EU exports of industrial goods of some 25% are somewhat higher than their import shares, while the export share of the third group - at about 47% - is lower than its import share.

EU industrial imports exceed agricultural imports by a factor of about 12 to 1. However, the relative share of agricultural imports varies considerably by country group (see Table 5). For example, the share of EU imports of agricultural products from the second group of countries is over 55% (compared to some 20% for industrial products), while the opposite is true for the third group. EU exports of agricultural goods account for about 7% of exports of industrial products. The third group of countries is the main recipient, accounting for almost 45% of EU exports of agricultural products.

From the point of view of tariffs, the EU is an open market. The common external tariff trade weighted tariff for industrial products stands at 1.6% when bilateral FTAs and autonomous preferential tariffs are taken into account. For those countries that have an operational FTA with the EU, the trade-weighted tariff on industrial goods is 0.3%. About 94% of imports from these countries come in duty free (or under positive preferential tariffs). Some positive non-preferential tariffs may still remain, especially in agriculture, and partners may not always use the preferential regime, as the preference utilisation rate of around 90% shows.[56]

The current average EU tariff on industrial imports from countries with on-going or planned FTA negotiations is already quite low, at 1.5%. Most of these are developing countries that already benefit from autonomous GSP preferences. Between 80% and 90% of EU imports from these countries are either duty free or at a preferential rate of duty (except for the ASEAN and the group of Other FTAs, for which the figure is about 70%) and the rate of preference utilisation is relatively high at 75%. Most of the on-going and planned FTA negotiations were launched under the "Global Europe" trade strategy, including with ASEAN, India and Korea. Others had already started (Gulf Cooperation Council and Mercosur) or were added subsequently (Canada, Libya). If all these negotiations were to result in an FTA that eliminates tariffs on substantially all trade in goods, it is estimated that the tariff for these countries would be brought down to 0.2%. The overall EU import tariff would then be further reduced from 1.6% to 1.3% (trade weighted).

In the third group, most countries are subject to the MFN tariff. The only exceptions here are China, which still has access to GSP preferences for a small volume of products, and Russia. The countries in the third group face an EU import tariff of 2.3%.[57] Still, for the major

[56] The lower preference utilisation rate of the Caribbean EPA is due to relatively low use of preferences in Mineral fuels and oils.

[57] This figure reflects significant volumes of duty free energy imports from Russia. Excluding Russia from this grouping would increase the trade-weighted EU import tariff to 2.7%.

partners in group 3, nearly 60% of EU imports of industrial products were not dutiable in 2009. In other words, these imports were subject to an MFN tariff of 0%.[58]

The last column of Table 4 shows that the level of tariffs on EU exports of industrial products is higher than the corresponding tariffs on EU imports of these products.[59] The level of tariffs on EU exports to group 1 - which is about 1% - reflects the existence of the preferential trading arrangement (although it is not fully phased-in in the case of the Mediterranean countries and is just at the beginning of the phasing-in process as far as the Caribbean EPA is concerned). Tariffs applying to EU exports on markets in group 2 are higher; the trade weighted average for the group is over 5%, and it is particularly high in Mercosur, at nearly 12%.

The average tariff faced by EU exports on the markets of the major partners in group 3 stands at 3.3%, and the conclusion of all on-going and planned FTA negotiations will not change that situation. About half of EU exports will still face MFN treatment on their largest export markets[60]. However, the main barriers to EU exports to these countries are likely to be of a non-tariff nature.

The tariffs of both the EU and its trading partners on agricultural goods remain higher than on manufactured goods. According to Commission estimates the ad-valorem equivalent (AVE) of EU MFN tariffs on agricultural imports is slightly above 10%. Table 5 displays the AVEs for the individual country groupings.

Table 5 further shows that the share of EU agricultural imports entering the EU market free of duties or under preferences is around 50% for the partners in country group 3, 70% for country group 2 with planned FTAs and 80% for group 1 with FTAs in force. EU trade preferences are well used in agriculture. The last column of Table 5 shows that the trade weighted average tariff on EU agricultural exports is into double digits on most destination markets. As in the case of industrial products, the relatively high tariffs of the EPA Caribbean and the Mediterranean countries reflect the fact that the FTAs with these partners are not yet fully phased-in.

[58] Strictly speaking the figure is somewhat lower since some EU imports from China and Russia are still eligible for the GSP.

[59] The figures come from the Market Access Database (MADB), http://mkaccdb.eu.int/mkaccdb2/indexPubli.htm. One should recall that not all the countries of all the country groupings are represented in the MADB when interpreting the figures.

[60] It should be noted here that Russia is not a member of the WTO.

Table 3 EU Free Trade Agreements, by status

Group	Status	Country	Note
1	**FTA (or customs union) in force**	Chile, Mexico, South Africa	Dev. country FTAs
		Andorra, San Marino, Turkey, Iceland, Liechtenstein, Norway, Switzerland	European Free Trade Association and *Customs Unions*
		Caribbean ACP	Economic Partnership Agreement
		Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Occupied Palestinian Territory, Tunisia	Mediterranean countries, FTAs
		Albania, Bosnia and Herzegovina, Croatia, Former Yugoslav Republic of Macedonia, Montenegro, Serbia	Western Balkans, Stabilisation and Association Agreements
2	**FTA concluded but not yet applied, or negotiations on-going or planned**	Bolivia, *Colombia*, Ecuador, *Peru*	Andean Community
		Brunei Darussalam, Indonesia, Malaysia, Philippines, Singapore, Thailand, Vietnam	ASEAN
		Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama	Central America
		Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates	Gulf Cooperation Council (GCC)
		Argentina, Brazil, Paraguay, Uruguay	MERCOSUR
		Armenia, Azerbaijan, Canada, Georgia, India, *Korea*, Libya, Moldova, Syria, Ukraine	Other FTAs
		African and Pacific ACPs	Economic Partnership Agreements
3	**No FTA**	China, Japan, Russia, United States, Australia, New Zealand	Major partners
		Rest of the world (~ 70 countries)	

Source: DG Trade
Note: completed FTA negotiations in Group 2 in italics

Table 4: EU imports and exports of goods, by trading partner and trade agreement status (2009, in %)

Regions and FTA status			EU import regime			Tariffs faced by EU exports [b]
	Share of EU imports	Trade weighted EU import tariffs [a]	Imports duty-free and under preferences	Preference utilisation	Share of EU exports	Trade weighted tariff
1. FTA in force	**22.3**	**0.3**	**93.9**	**90.8**	**27.7**	**1.2**
Developing countries	2.5	0.3	90.8	79.8	3.4	0.8
EFTA and Customs Union	14.6	0.2	93.9	92.5	15.9	0.0
EPA Caribbean	0.3	0.3	92.5	70.4	0.3	6.9
Mediterranean FTAs	4.0	0.2	96.6	93.2	5.9	4.7
Western Balkans	0.9	0.8	91.8	90.0	2.2	0.7
2. FTA concluded but not yet applied, or negotiations on-going or planned	**21.8**	**1.5**	**77.1**	**75.9**	**25.6**	**5.4**
Andean	0.4	0.1	92.2	78.1	0.6	5.0
ASEAN	5.4	2.1	71.3	62.3	4.6	4.2
Central America	0.2	0.2	96.1	51.2	0.4	4.2
Gulf Cooperation Council	2.0	0.8	93.2	84.9	5.3	3.8
MERCOSUR	1.5	1.1	86.7	74.6	2.5	11.7
Other FTAs	10.0	1.7	69.6	77.5	9.1	4.6
Rest of ACP EPAs	2.3	0.1	98.5	89.3	3.2	7.3
3. No FTA	**55.8**	**2.3**	**59.0**	0.0*	**46.7**	**3.3**
Major partners	50.3	2.3	59.0	0.0*	38.6	3.3
Rest of the world	*5.5*	*n.a*	*n.a.*	*n.a.*	*8.1*	*n.a.*
Grand total	**100.0**	**1.6**	**69.9**	**n.a.**	**100.0**	**3.0**

Source: DG Trade, COMEXT, Taric and MADB. *Note:* [a] The figures include tariff lines for which the EU MFN tariff is zero. [b] The sub-country group figures under each FTA status heading are the simple average of trade weighted figures by the individual countries in the group. * Some exports from China and Russia are still eligible for preferences under the GSP. This table includes tariff lines HS25-99

Table 5: EU imports and exports of agricultural goods, by trading partner and trade agreement status (2009, in %)

Regions and FTA status			EU import regime			Tariffs faced by EU exports
	Share of EU imports	Trade weighted EU import tariffs [a]	Imports duty-free and under preferences	Preference utilisation	Share of EU exports	Trade weighted tariff
1. FTA in force	**21.5**	**2.0**	**81.6**	**83.1**	**29.1**	**7.8**
Developing countries	5.8	4.0	80.3	85.2	2.2	0.8
EFTA and Customs Union	8.8	1.5	76.4	75.3	14.6	5.7
EPA Caribbean	1.2	1.0	98.0	97.4	0.6	13.6
Mediterranean FTAs	4.1	1.0	88.7	93.5	7.9	14.8
Western Balkans	1.6	1.0	94.7	95.5	3.7	4.4
2. FTA concluded but not yet in force, or negotiations on-going or planned	**58.4**	**6.9**	**70.2**	**90.2**	**26.2**	**12.5**
Andean	4.6	12.8	65.8	98.6	0.4	9.8
ASEAN	9.4	2.0	60.9	82.6	4.2	8.5
Central America	3.0	7.5	71.8	91.7	0.4	10.6
Gulf Cooperation Council	0.3	0.9	94.0	93.8	5.1	11.6
MERCOSUR	23.9	10.7	73.5	91.0	1.5	13.5
Other FTAs	6.7	6.4	80.4	80.0	8.0	15.9
Rest of ACP EPAs	10.5	0.3	67.5	98.2	6.6	11.8
3. No FTA	**20.1**	**10.4**	50.7	0.0*	**44.7**	**5.2**
Major partners	17.7	11.2	50.7	0.0*	35.8	5.2
Rest of the world	2.4	4.2			8.9	
Grand total	**100.0**	**6.5**	**69.0**	**n.a.**	**100.0**	**7.9**

Source: DG Trade, COMEXT, and MADB. *Note:* [a] Tariffs displayed are the preferential tariffs . [b] The sub-country group figures under each FTA status heading are the simple average of trade weighted figures by the individual countries in the group. * Some exports from China are still eligible for preferences under the GSP. This table covers tariff lines HS01-24, except columns 2 and 3 cover Agricultural Products as defined by the WTO.

2) NON-TARIFF REGULATORY BARRIERS ON GOODS

As tariff barriers are gradually reduced through multilateral and bilateral trade negotiations (and autonomous preferences for the poorest countries), non-tariff barriers or measures (NTMs)[61] are becoming relatively more important obstacles to trade. In this section we examine regulatory NTMs that affect trade in goods. The following sections focus on NTMs in services and investment, and regulatory restrictions in public procurement markets. NTMs in goods trade cover a wide variety of measures, from customs procedures at the border, to sanitary & phyto-sanitary (SPS) measures and technical barriers to trade (TBT), domestic rules and regulations, export restrictions and export licensing requirements that may adversely affect foreign suppliers of goods, etc.

Regulatory measures perform important functions for societies and pursue legitimate public policy objectives. Compliance often increases the cost of production of a good or service. But it is first and foremost intended to increase the benefits that consumers and citizens derive from these goods and services, for example achieving an appropriate level of protection of human health and safety, animal and plant life, environmental conservation and safeguarding consumers from deceptive practices. For this reason and unlike tariffs, NTMs cannot simply be scrapped. That would lead not only to considerable welfare losses but also a loss in consumer confidence that may cause major trade disruptions. However, without calling into question the right of countries to establish their own levels of health and safety protection of citizens and consumers, NTMs have often been prepared with purely domestic considerations in mind, without sufficient account being taken of their impact on international trade or of the availability of more trade-friendly solutions. Under the EU's "Better Regulation" policy, legislation and other regulatory measures should be designed in such a way as to minimize costs and impact on trade and to maximize the benefits, taking into account proportionate risks. Examination of their impact on trade should include exploring less trade restrictive solutions, if any, such as international standards. In a number of cases, additional cross-border trade costs of regulation, over and above domestic compliance costs, may be due to provisions that discriminate de jure or de facto against foreign producers or which apply disproportionate requirements. In those cases, the regulations are considered to be "barriers" to trade, giving rise to the expression "non-tariff barriers", in particular if they are unlawful in WTO terms, because they do not fulfil a legitimate objective, are not proportional or are discriminatory. Such provisions can normally be addressed under the WTO rules.

However, even lawful, proportionate, legitimate and non-discriminatory regulation can give rise to additional trade costs for foreign producers, simply because of differences in regulation between countries. These differences may be perfectly legitimate and simply the result of historical differences in regulatory approaches, differences in income levels, consumer preferences and risk perceptions. The welfare gains that they generate by responding to these differences should by compared with the costs. They may require foreign suppliers to adapt their products to the regulatory requirements of each export market, thereby increasing the cost and time of production and bringing a good to the market. As EU companies increasingly become part of global supply chains, differences in regulation between the EU and its trading partners segment markets, increase the cost of participation in the global economy and reduce the competitiveness of local companies in the global market.

[61] We prefer the more neutral "measures" rather than "barriers" because most of these measures have been designed without much thought being given to their potential impact on trade. There is no official definition of NTMs.

Box 6 The WTO Agreement on Technical Barriers to Trade

The WTO Agreement on Technical Barriers to Trade (TBT) refers to mandatory technical regulations and voluntary standards that define specific characteristics that a product should have, such as its size, shape, design, labelling / marking / packaging, functionality or performance, as well as the conformity assessment procedures to check whether a product is in compliance with these requirements. The agreement is meant to ensure that such measures do not result in discrimination or arbitrary restrictions on international trade, in order to minimize the negative impact on trade. The five principles at the core of the TBT Agreement are:

- Transparency - a WTO Member planning to introduce a measure that might have an important impact on trade should notify this to the WTO, and take into account comments submitted by other countries on the draft legislation.
- Non-discrimination and national treatment - a measure should not discriminate between different importing Members and should apply in the same way to both imports and similar domestic goods
- Proportionality - a measure should not be more trade restrictive than is necessary to achieve the legitimate goal pursued
- Use of international standards - whenever possible, international standards should be used as a basis for technical regulations
- Equivalence – WTO Members should consider accepting technical regulations of other Members as being equivalent to their own.

In the EU, the general approach to technical regulations, standards and conformity assessment procedures is based on a legislative method whereby product legislation is restricted to the adoption of "essential requirements" necessary to protect public interest such as human health, safety or the environment. The detailed technical requirements are usually addressed by means of voluntary European standards. This method has made it possible to keep the legislative framework flexible and technology-neutral and has given manufacturers and importers the possibility to choose different technical solutions to achieve the required level of safety.

The same principles underlie the Sanitary and Phytosanitary (SPS) WTO Agreement which also adds that measures need a scientific justification. Three international standard setting bodies[62] are specifically recognised in the SPS field, and their standardisation work provides a solid reference point towards which WTO members can harmonise their respective laws. At the same time, WTO members are free to set their own appropriate level of protection. Where it is not supported by an existing standard, such decision must be based on scientific justification. The unnecessary strictness of SPS measures, overly burdensome procedures, and insufficient use of trade facilitating tools are the main causes of difficulties in the SPS field. Enforcement of the WTO rules goes a long way towards limiting SPS measures to what is necessary and justified either by reference to an international standard, or supported by hard science.

[62] The three bodies are: the IPPC - the International Plant Protection Convention (World organisation for plant health), the OIE - International Office of Epizootics (World organisation for animal health) and the Codex Alimentarius Commission - (World organisation for food safety).

In principle, cross-border trade cost of NTMs can be reduced to some extent through mutual recognition of conformity assessment procedures or simplification of procedures. In a number of cases, they could even be reduced to zero through full harmonisation between trading partners, as has been the case with the Single Market in Europe. The same effect can also be achieved when technical regulation is based on international standards.

Apart from the legality of NTMs, there is the issue of their economic and trade impact. A distinction can be made between vertical and horizontal market segmentation as a result of NTMs (Baldwin, 2000). Vertical segmentation occurs when an NTM lead to quality differences between varieties of the same product. This is beneficial for consumers as it enables them to choose the quality level they prefer. Horizontal segmentation occurs when regulation separates markets for one and the same quality of a product. That has no benefits for consumers and just enables producers and suppliers to practise price-discrimination between markets.

Unlike tariffs on goods, for which precise values are available, there is no direct measure of the trade cost of NTMs. Trade costs can only be estimated, either by using statistical techniques that estimate the tariff cost equivalent of NTMs or by means of direct estimates based on firm surveys. There are several estimation methods available, using econometric techniques and trade restrictiveness indexes, and usually producing quite different outcomes. Tables 6 and 7 present some trade cost estimates of NTMs from two studies commissioned by DG TRADE. The first covers NTMs in the context of EU-US trade. These estimates are based on a combination of firm-level surveys and statistical techniques. The second study relates to trade between the EU and Japan. It includes NTM estimates obtained directly from firm level surveys. Both studies cover a limited number of sectors only. The results should not be taken at face value and should be interpreted with caution. They are just an indication of an order of magnitude, not a precise estimate comparable to the reliability of a tariff figure however. Firms may not always have a clear view on the additional trade costs that NTM entail. Moreover, the estimation methods used inevitably induce a degree of uncertainty in the results.

Table 6: Trade costs of NTMs in the US and the EU (in % tariff equivalent)

Sector	NTM costs in the EU	NTM costs in the US
Chemicals	23.9	21.0
Pharmaceuticals	15.3	9.5
Cosmetics	34.6	32.4
Electronics	6.5	6.5
Office & communications equipment	19.1	22.9
Automotive	25.5	26.8
Aerospace	18.8	19.1
Food & Beverages	56.8	73.3
Metals	11.9	17.0
Textiles & clothing	19.2	16.7
Wood & paper products	11.3	7.7

Source: Ecorys (2009) "Non-Tariff Measures in EU-US Trade and Investment – An Economic Analysis" available at http://ec.europa.eu/trade/analysis/chief-economist/

These studies show that the estimated trade costs of NTMs are usually considerably higher than the corresponding import tariffs for these goods, both for the EU and for its trading partners. In most cases NTMs are a bigger obstacle to trade than import tariffs. The consistency of this finding across sectors and countries, and across several other studies, indicates that more attention should be paid to reducing NTMs using a variety of regulatory approaches.

Table 7: Trade costs of NTMs for EU exports to Japan (in % tariff equivalent)

Sectors	Trade cost estimate (% tariff equivalent)
Food and beverages	25.0
Chemicals & pharmaceuticals	22.0
Electrical machinery	11.6
Motor vehicles	10.0
Transport equipment	45.0
Metals and metal products	21.3
Wood and paper products	15.4
Other machinery	30.0
Personal, cultural, other services	6.5

Source: Copenhagen Economics (2010), "The barriers to trade and investment between the EU and Japan", available at http://ec.europa.eu/trade/analysis/chief-economist/

What policy instruments are available to reduce these trade costs of NTMs? Unlike tariffs, the laws and regulations that result in NTMs, which normally are the outcome of a democratic legislative process, cannot simply be removed. Removing the regulation would take away the consumer benefits of the regulation and run counter to democratic principles. One way to address NTMs is to align regulations between countries that have the political will and mandate for doing so, is to make use of international standards where available Experience has shown that mutual recognition of conformity assessment procedures is facilitated when both parties regulatory systems are based on international standards.

Harmonisation and convergence towards the standard of a large trading partner may work for smaller economies that have less to gain from setting their own standards, for instance between the EU and its neighbours. Between large economies, however, harmonisation might prove more difficult. When the EU seeks a reduction in regulatory barriers with its major trading partners, the reference to common third party or international standards may be a better way forward. Several industry sectors have moved in that direction, for instance electronics and automobile. In the agri-food sector, where there are internationally recognised

standards for most products, the EU objective is to achieve full alignment with these standards (harmonisation as defined by the WTO SPS Agreement)[63].

When harmonisation or recognition of equivalence of standards or regulations is not an option, mutual recognition of conformity assessment procedures still remains a possibility. The trade costs of regulation are often unnecessarily high because of duplications in procedures, laboratory testing requirements and other compliance procedures, etc. Finally, many NTMs concern domestic regulatory issues other than product-specific technical regulations or standards that are not necessarily directly related to trade, such as domestic industrial policies and tax issues for instance. For this reason, tackling them in a trade agreement is more difficult. A more comprehensive regulatory partnership approach may be required to address the wide range of regulatory issues that these NTMs cover. International agreements can address some of them and minimize the trade costs of these regulatory differences, but they cannot usually be reduced to zero.

As the EU is one of the largest global markets, companies that adopt EU regulatory standards benefit from strong economies of scale and the regulatory leadership role played by EU standards in world markets. However, outside the EU neighbourhood and given the growing economic power of EMEs, that regulatory leadership position should not be taken for granted, especially in products and areas where other major EU partners have different regulatory approaches and where EMEs are rapidly gaining prominence. In industrial sectors, regulatory partnerships in specific sectors with strategic trading partners that share the EU's regulatory objectives will become more important.

In conclusion, NTMs on goods can create higher trade costs than do tariffs on goods. At the same time, they are also more difficult to reduce and, unlike tariffs, cannot just be abolished. NTM trade cost reductions potentially offer substantial benefits, but these benefits are not easy to achieve. Some regulatory differences between countries are unavoidable, but their impact should be reduced, whenever possible and appropriate, by means of regulatory convergence and harmonisation.

[63] The EU needs to actively contribute to the work of international standard setting bodies like those for the agrifood sector. The EU's own regulatory practice is setting an important example when building on solid science and using a result-oriented approach.

3) BARRIERS TO TRADE IN SERVICES

Services represent 70% of world output but only about one fifth of world trade. The low proportion of services in total trade is partly a result of natural barriers since some services are by definition non-tradable and have to be produced and consumed where the client is, for example, taxi services.[64] Falling transport costs and most of all rapidly declining costs for digital services delivery have boosted trade in services. But trade barriers continue to play a major role. Like regulatory barriers in goods, barriers to trade in services are generally by an order of magnitude higher than import tariffs for goods.

Given the EU's high level of economic development, services account for about 30% of EU exports (2009). Generally, services play a particularly important role in trade between developed economies: EU services exports to the United States represent 36% of all EU exports to the US but EU services exports to China represent only 18% of all EU exports to that country. The EU's top-five trading partners (United States, Switzerland, Russia, China and Japan) collectively account for half of all extra-EU commercial services exports.

The EU is the world's "market leader" in global services trade, accounting for 27% of global exports and 25% of global imports in 2009, even if its market share has eroded slightly between 2004 and 2009. Services are thus an area of international trade where the EU's industry is highly competitive, but where trade barriers continue to prevent it from reaping the full benefits of its strong competitiveness. It also is noteworthy that services exports have been less affected by the 2008-2009 financial crisis than goods exports. On the import side, the EU's opening up of its own services import markets is important for its competitiveness, including for the manufacturing sector that is a major consumer of transport, financial and business services inputs. Approximately 75% of services trade relates to intermediate services[65] and has thus a direct bearing on downstream industries' competitiveness.

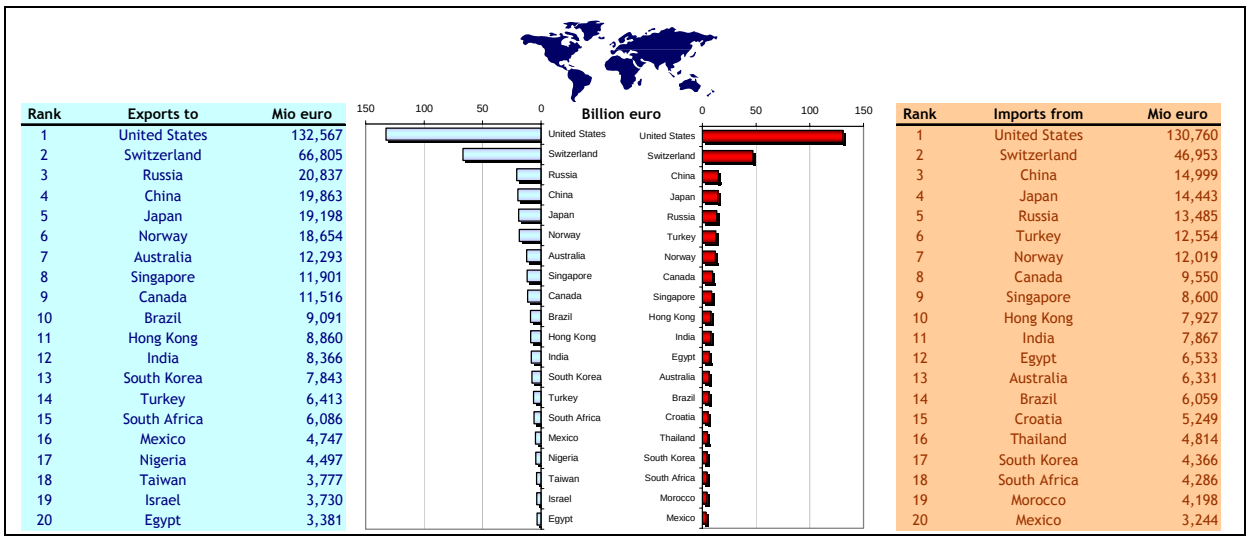
Statistics on trade in services are generally less comprehensive and robust than for goods trade, not only because data collection systems are less developed in some countries but also because a substantial proportion of services are supplied via foreign direct investment (e.g. local branch offices, known as mode 3 in WTO parlance).

Virtually all services trade barriers are non-tariff barriers; that is, they include a wide-range of regulatory measures whose trade impact is often difficult to quantify and compare across sectors and countries. The WTO General Agreement on Trade in Services (GATS) classifies these barriers in three types: market access barriers (at-the-border barriers that prevent entry into a national market), national treatment barriers (that discriminate between domestic and foreign services providers) and domestic regulation barriers (that apply to all providers but create de facto additional hurdles for foreign providers).

[64] The WTO distinguishes between four modes of services trade, which are also used in bilateral trade negotiations: mode 1 – cross-border supply; mode 2 – consumption abroad (e.g. tourism); mode 3 – foreign establishment; and mode 4 – Presence of natural persons in recipient country (temporary movement of labour).

[65] Miroudot, S./ Lanz, R./ Ragoussis, A: "Trade in intermediate goods and services", OECD 2009 TAD/TC/WP(2009)1

Table 8 EU Imports and Exports - Commercial services (2008)



Rank	Exports to	Mio euro
1	United States	132,567
2	Switzerland	66,805
3	Russia	20,837
4	China	19,863
5	Japan	19,198
6	Norway	18,654
7	Australia	12,293
8	Singapore	11,901
9	Canada	11,516
10	Brazil	9,091
11	Hong Kong	8,860
12	India	8,366
13	South Korea	7,843
14	Turkey	6,413
15	South Africa	6,086
16	Mexico	4,747
17	Nigeria	4,497
18	Taiwan	3,777
19	Israel	3,730
20	Egypt	3,381

Rank	Imports from	Mio euro
1	United States	130,760
2	Switzerland	46,953
3	China	14,999
4	Japan	14,443
5	Russia	13,485
6	Turkey	12,554
7	Norway	12,019
8	Canada	9,550
9	Singapore	8,600
10	Hong Kong	7,927
11	India	7,867
12	Egypt	6,533
13	Australia	6,331
14	Brazil	6,059
15	Croatia	5,249
16	Thailand	4,814
17	South Korea	4,366
18	South Africa	4,286
19	Morocco	4,198
20	Mexico	3,244

Source: DG TRADE/ Eurostat

Table 9 EU share in services imports of major trading partners

	2009
Hong Kong	24%
China	16%
Canada	19%
Brazil	28%
India	16%
Japan	16%
Russia	42%
US	50%

Source: Eurostat, WTO

Contrary to trade in goods, where import tariffs provide a readily observable measure of restrictions to trade, the aggregate impact of regulatory barriers restricting services trade must be estimated indirectly. Given the challenging data environment and the availability of several different estimation methods, services barrier estimates necessarily involve a degree of statistical variation. However, recent research commissioned by the European Commission (DG TRADE), the OECD and the World Bank, based on a variety of approaches, consistently concludes that services barriers are by an order of magnitude higher than the tariff barriers prevailing in most manufactured goods markets.

Table 10 presents services barrier estimates[66] using one particular method, the gravity approach[67]. This approach generates estimates of the tariff equivalents of market access and

[66] Based on cross-section gravity regressions covering 82 countries

[67] In gravity models, the volume of trade between two countries is determined by the size of their respective economies (population, GDP per capita) and the distance between them. Other variables can be added to this simple model, for instance language differences, past colonial links, etc. The trade volume predicted by

regulatory barriers to services trade. This provides an example of the level of barriers found in different services sectors.

Table 10 Estimated tariff equivalents of services barriers (in %)

	Telecom	Constr	Trade	Transport	Finance	Business services	Other
Developed Countries	24	42	31	17	34	24	26
Asia	33	25	17	8	32	15	17
Eu25	22	35	30	18	32	22	27
USA	29	73	48	14	41	34	7
Developing countries	50	80	47	27	57	50	34
Total mean	35	58	38	21	44	35	29
Max	119	119	95	53	103	101	54

Source: DG TRADE/ CEPII

Another approach is taken by the OECD's Service Trade Restrictiveness Index (STRI) project, an ambitious attempt to compare services trade barriers across countries and sectors. This approach generates an index of the level of trade restrictiveness, not a tariff equivalent. At this stage, it covers four sectors (professional services, computer services, telecommunications services and construction services) in the thirty OECD countries. The EU member states are assessed individually, thus enabling a comparison of levels of openness both between EU and non-EU countries as well as among EU member states themselves. The four sectors included in the pilot investigation provide only partial coverage of total services trade. They include a range of services characteristics such as regulation intensity and principal modes of trade (e.g. cross-border trade (mode 1) versus trade by foreign establishment (mode 3). The pattern emerging from the available sector STRIs is that the services trade barriers prevailing in EU Member States are generally in the same range as those in non-EU OECD countries, but there are large variations between individual EU countries. The exception is telecoms, where non-EU countries are clearly more restrictive.

Approximately 75% of services trade concerns the supply of intermediate services to almost every sector in the economy.[68] For example, business services providers could help industry customers comply with government regulation and thus lower entry costs in foreign markets; telecommunication services help firms create data links between dispersed production sites; retail services help firms reach their customers, etc. Manufactured goods thus embody a substantial amount of services inputs. Consequently, increased services trade opening could enhance the competitiveness of manufacturing firms, leading to overall welfare gains. Recent research indicates that services trade barriers need to fall below a critical level before trade takes off.[69] Unless natural barriers are prohibitive, taking services opening across this critical threshold is therefore a key factor for creating a real impact from services trade agreements.

Significant progress has already been achieved in facilitating EU internal trade in services, for instance by means of initiatives such as the EU Services Directive and the E-Commerce Directive. This has increased the value of our international commitments, notably as firms established in one Member State are now in a position to provide services across the EU for a number of key services sectors.

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the gravity model is taken as a benchmark. The role that regulatory barriers play in deviations from that predicted volume can then be estimated.

[68] Miroudot et al, op. sit.

[69] Nordas, H.: "Trade in goods and services: Two sides of the same coin?", in: Economic Modelling (2009)

International trade negotiations in the services sectors have so far mainly focused on (partially) consolidating the existing barriers ("binding water"), rather than achieving new market access. Further development of the EU Internal Market in services should facilitate more effective services trade opening, including on regulatory aspects, both at multilateral and bilateral levels. Deeper services market access in bilateral Free Trade Agreements will require a certain degree of approximation of rules and regulatory systems between the partners. Services trade negotiations with major trading partners may require some flexibility from the EU side as well. To the extent that market access, national treatment and regulatory barriers in services are in practice non-discriminatory, third parties are able to free ride on bilateral services opening. That constitutes a disincentive for trading partners to grant further opening. Important potential gains have thus remained untapped in many negotiations. However, the costs of free-riding and dissipated benefits should be compared with the benefits for domestic services providers from granting further bilateral opening and tackling regulatory barriers. For example, Korea's commitment to adopt the liability regime provided for by the EU E-Commerce Directive, benefits both EU and Korean online companies.

The degree of opening of services trade in a trade agreement is defined through schedules that contain lists of commitments and/or reservations. These schedules generally take the form of either a "bottom-up" positive list or a "top-down" negative list. A negative list thus provides for the comprehensive liberalisation of trade for all service sectors except those otherwise specified in a list of reservations. A positive list is based on the voluntary inclusion of a designated number of sectors, indicating precisely what type of access and what type of treatment applies in each sector and for each mode of supply. Negative lists normally capture the *status quo* and focus negotiations on potential new trade liberalisation, while also capturing and locking in future trade liberalisation, unless otherwise specified in the agreement. A positive list liberalises a designated set of sectors, indicating precisely what type of access and what type of treatment applies in each sector and for each mode of supply, retaining greater policy space by ensuring that as new sectors emerge, they stand outside any market opening framework unless and until explicitly brought into it.

These two approaches differ in the degree of transparency. Negative lists describe all discriminatory regulation that applies to any sector while positive lists only list the restrictions applicable to those sectors which are liberalised. They provide no information regarding the situation of those sectors which are not included, nor the scope of opening in these sectors. Negative lists generally reflect at least the current autonomous state of opening and capture future market opening. Likewise, they generally liberalise, unless this is specifically carved out, trade in services inexistent at the time of the agreement and for which, therefore, no restrictions of treatment were listed in the agreement.

4) INVESTMENT BARRIERS

Investment presents itself as another new frontier for the common commercial policy. The Lisbon Treaty provides for the Union to contribute to the progressive abolition of restrictions on foreign direct investment. The Treaty grants the Union exclusive competence to that effect. This enhances the EU's ability to speak and act on investment issues on the global scene and responds to the increasing need of EU and foreign investors for a more integrated, open, transparent and predictable investment environment.

There are as yet no multilateral investment rules and disciplines, despite several attempts in that direction in the WTO and the OECD. Consequently, cross-border investment rules can be freely negotiated in bilateral agreements between countries, in case a party is not satisfied with local rules and restrictions in a partner country where it intends to invest. Until the entry into force of the Lisbon Treaty, Member States could conclude Bilateral Investment Treaties (BITs) with third countries to increase market access and protect their investments. With a total of almost 1200 agreements, Member States account for almost half of the investment agreements currently in force around the world. These BITs are generally related to the treatment of investors "post-entry" only, for example commitments against unfair or discriminatory treatment or a guarantee of prompt, adequate and effective compensation in case of expropriation. They do not include market access commitments. The EU has started filling that gap through multilateral and bilateral trade agreements that include provisions for investment market access[70]. The Commission recently adopted a Communication that explains how it intends to take up its new Lisbon investment policy responsibilities and include these in new trade agreements or in separate investment agreements.

Some statistics

Foreign direct investment (FDI) is generally considered to include any foreign investment that establishes lasting and direct links between the investor and the company to which capital is made available[71]. The benefits of inward FDI, both into the EU and other countries, are well-established. FDI creates jobs, optimises resource allocation, transfers technology and skills, and increases competition. Through FDI, companies build the global supply chains that are part of the modern international economy. Investment is often perceived as a substitute for trade: building a factory is seen as a substitute for trading these products from the home country. In today's world of global production chains however, that is less and less true. Around half of world trade today takes place between affiliates of multinational enterprises that trade intermediate goods and services. Investment is more often a complement to trade: more investment brings more trade.

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[70] At the multilateral level, the General Agreement on Trade in Services (GATS) provides for a framework for undertaking commitments on the supply of services through a commercial presence (defined as "mode 3" by GATS Article I). At the bilateral level, the Union has concluded negotiations with Korea on a Free Trade Agreement, which includes provisions on market access for investors and establishments.

[71] UNCTAD defines FDI as "an investment made to acquire lasting interest in enterprises operating outside of the economy of the investor. Further, in cases of FDI, the investor´s purpose is to gain an effective voice in the management of the enterprise. […] Some degree of equity ownership is almost always considered to be associated with an effective voice in the management of an enterprise; […] a threshold of 10 per cent of equity ownership [is suggested] to qualify an investor as a foreign direct investor".

Most of the empirical evidence[72] at the firm level finds that EU outward FDI may have a negative short-term impact but a positive medium and long term impact on employment in the investing firm. Hijzen, Jean and Mayer (2009) find that French manufacturing firms which open foreign subsidiaries in developed countries on average experience a 25% higher employment after 3 years compared to similar firms who do not invest abroad. Lipsey et al. (2007) found that skilled EU workers are challenged by the establishment of a foreign affiliate in another developed country while unskilled workers are challenged by establishments in developing countries. Positive or neutral effects inside the firm may be offset by a negative effect in other firms in the same sector. At the firm level the findings suggest that the negative impact of moving part of the supply chain abroad is more than offset by the positive scale effect due to productivity gains.

Over the last two decades, the global economy has witnessed a remarkable expansion in foreign direct investment (FDI), mainly driven by a significant increase of the share of emerging economies. The EU remains one of the largest recipients of global FDI inflows, after the US (see table 11 and figure 12). After reaching an historical peak in 2007, FDI inflows recorded a substantial fall when the 2008-09 economic crisis hit all major economies. In 2008, EU-27 FDI inflows fell by 40% to a total of USD 503 billion. The major part of the EU inflows is accounted for by services sectors, in particular the financial sector. Cross-border mergers and acquisitions (M&A) – the main mode of FDI entry and the principal drivers of the FDI boom during the early 00's - decreased by almost 90% in 2009 compared to the peak of 900 billion US$ in 2007, especially in the financial sector (UNCTAD 2009).

Table 11 Global FDI inflows (in millions of Euro)

	1995	2000	2005	2008
World	260.846	1.495.967	782.356	1.154.034
Developed economies	169.038	1.210.267	492.768	654.242
Europe	104.465	765.896	406.804	352.420
European Union	100.922	737.037	400.643	342.299
North America	52.008	412.302	104.867	245.325
United States	44.932	339.982	84.216	214.925
Other developed countries	12.566	32.069	-18.902	56.496
Developing economies	88.664	278.123	264.712	422.038
Africa	4.324	10.543	30.723	59.592
Latin America	22.563	106.482	61.977	98.162
Brazil	3.368	35.491	12.110	30.635
Chile	2.260	5.262	5.614	11.413
Mexico	7.283	19.520	17.621	14.924
Asia and Oceania	61.777	161.099	172.011	264.284
China	28.685	44.083	58.200	73.642
Hong Kong	4.750	67.046	27.022	42.836
Korea	971	9.748	5.671	5.169
Taiwan	1.192	5.336	1.306	3.693
India	1.644	3.882	6.114	28.253
Singapore	8.819	17.848	11.554	15.450
Thailand	1.583	3.626	6.469	6.861
South-East Europe and the CIS	3.144	7.576	24.876	77.754

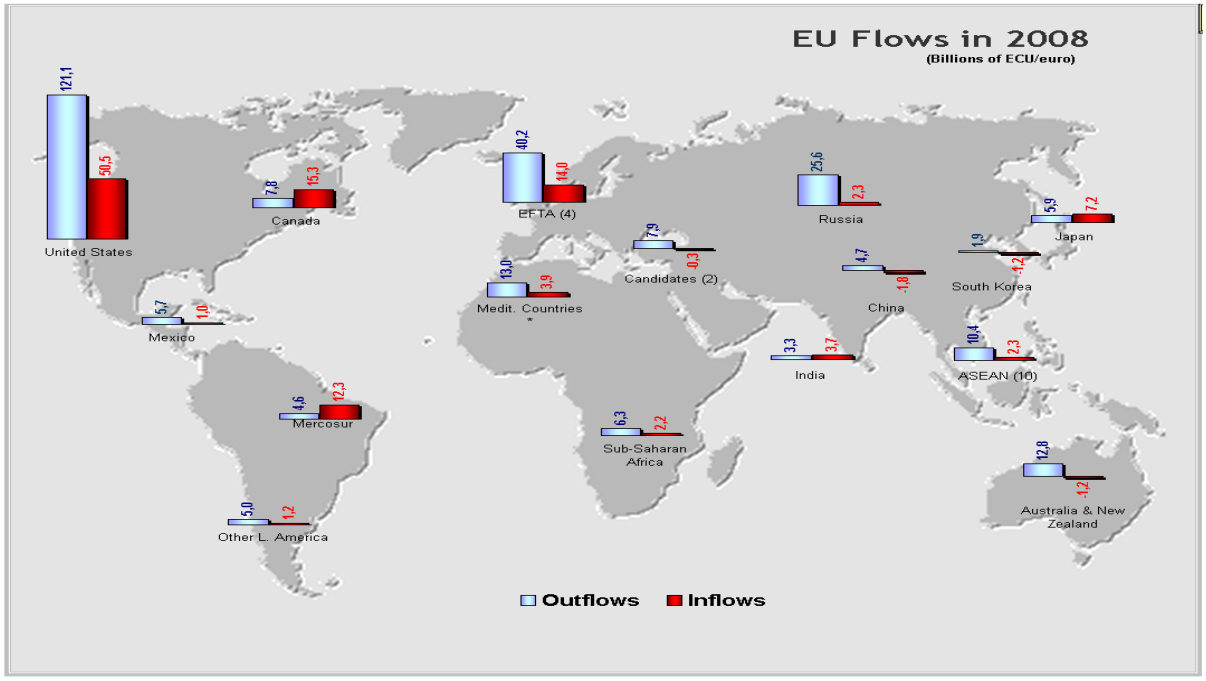
Source: UNCTAD (2009)
Note: EU flows include intra-EU flows

[72] Copenhagen Economics (2009)" Impact of EU outward investment on the EU economy", report for the European Commission (DG TRADE), available at http://ec.europa.eu/trade/analysis/chief-economist/

In 2008, the US still retained its position as the largest FDI recipient, both among developed countries and worldwide. The increase (from 2007 to 2008) in FDI inflows towards the US (17% or USD 316 billion) is mostly due to a rise in equity capital inflows - primarily in manufacturing and finance sectors. While FDI stocks and flows are today still heavily concentrated among industrialised countries, emerging market economies have become increasingly active as investors - and as recipients of investment.

The upsurge of investment activities by Sovereign Wealth Funds (SWF) based in emerging market economies has triggered concerns in developed countries that these new actors may be pursuing political rather than just economic aims. Some countries took measures to improve investment transparency; while others adopted legislation aiming at authorising the review of foreign investment, sometimes using national security reasons.

Figure 12 Origin and destination of EU foreign direct investment inflows and outflows



Source: European Commission - DG TRADE
Note: EU flows exclude intra-EU flows

According to UNCTAD[73] (2008) "110 new FDI-related measures were introduced by a total of 55 countries. Of these, 85 measures were more favourable to FDI. Compared to the previous year, the percentage of less favourable measures for FDI has remained unchanged and stands at 23 per cent".

Measuring investment restrictiveness:

Barriers to foreign investment take the form of regulatory restrictions. The OECD classifies these in to three broad categories:

[73] Survey of changes to National Laws and Regulations related to FDI

- Restrictions on foreign ownership of equity capital
- Mandatory screening and approval procedures increasing the cost of entry.
- Operational restrictions: for example limits on foreign nationals working in affiliates, or nationality and residence requirements for members of the board of directors, input restrictions and discriminatory government regulations, or restrictions on the repatriation of profits.

Equity limitations and screening are related to rights of establishment, whereas the others are related to national treatment of established firms. Note that this classification does not cover risks of expropriation and compensation. These risks are assumed to be negligible in OECD countries with well-established legal and judicial systems. In that logic, BITs make sense only for countries that are not perceived to provide adequate legal and judicial protection of foreign investors. By contrast, agreements that seek to relax market access restrictions are useful for all countries.

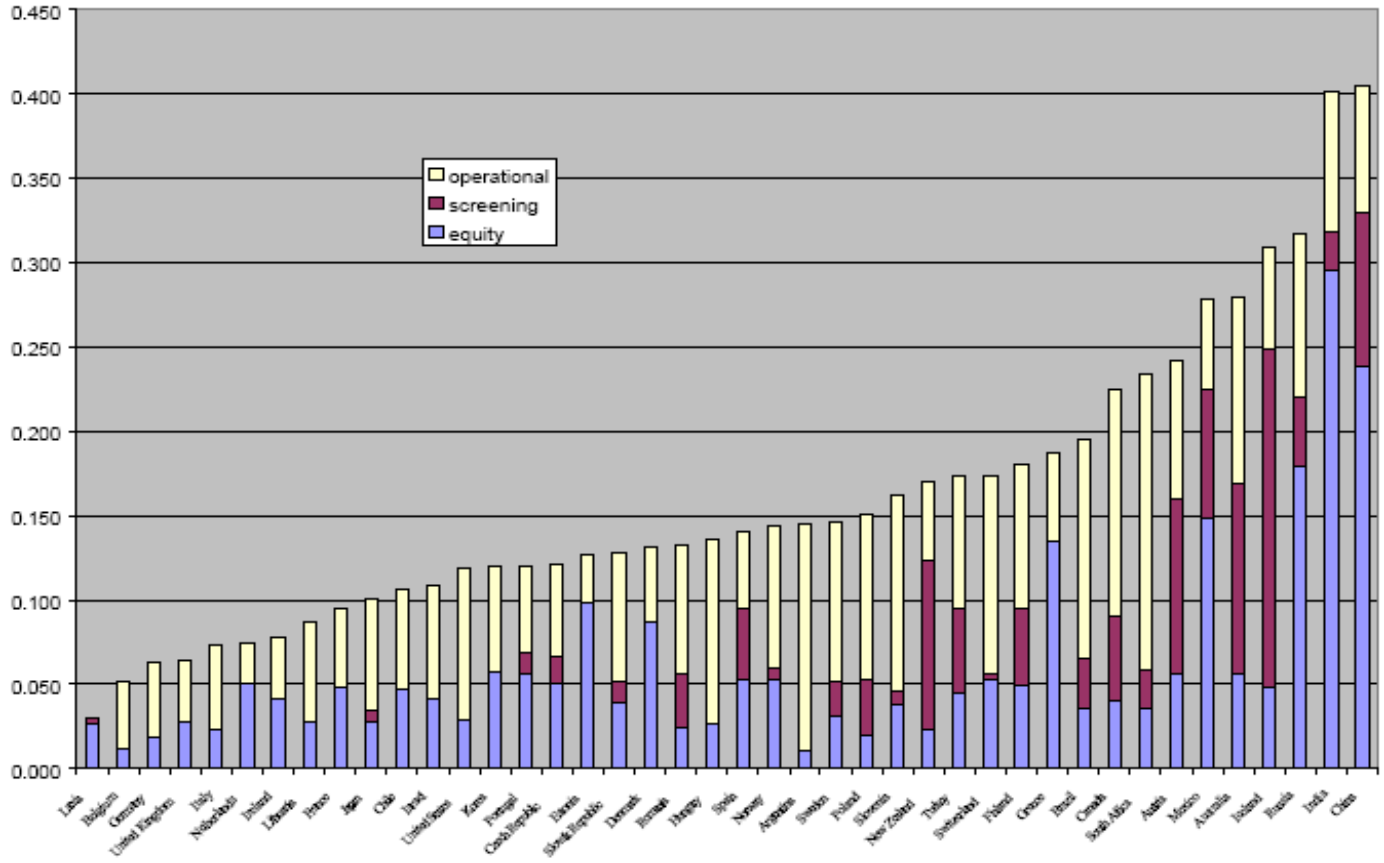
Most attempts to measure the FDI restrictiveness of countries are based on a scoring approach of these types of restrictions[74]. The OECD FDI restrictiveness indicators weight different barriers (equity, screening, and other restrictions) to FDI according to their perceived significance. The score ranges between 0 (unrestricted) and 1 (prohibited). They cover nine sectors of which seven are services industries, where the bulk of FDI restrictions are generally found. The information is aggregated into a single measure for the economy as a whole. The figure below presents OECD FDI regulatory restrictiveness indicators by type of restrictions.

Figure 13 presents a summary. Overall FDI restrictions are low in most of the developed countries. However, the overall level of barriers masks wide differences between countries and across sectors. The most open economies are in Europe, though some potentially restrictive measures on FDI still remain that can prevent investment from entering the EU market and/or increase the cost of FDI. Since the late 1980s, intra-EU FDI flows are almost completely unrestricted. Nonetheless, some important differences in barriers to FDI among EU member states remain. The US is below the OECD mean and Japan is above the OECD mean. Similar barriers remain in other OECD economies, and in emerging market economies. The high level of barriers to investment in India and China stands out.

The bulk of restrictions are found in services sectors. FDI inflows into manufacturing are almost completely free, apart from economy-wide restrictions such as notification or screening requirements. Within services industries, construction, hotels and restaurants are on average relatively unrestricted. By contrast, electricity, transport, telecoms, finance and media are the most constrained industries. Electricity has the highest score. However, this high score for electricity results more from public ownership than explicitly discriminatory barriers against foreign investment. Again, these average patterns hide cross-country differences in the magnitude of the barriers in services. The fall in FDI barriers has been particularly significant in the telecoms and air transport sectors, which were almost completely closed in the early 1980s.

[74] Other measures of the FDI barriers exist: the UNCTAD inward FDI index but it was only released for 2001.Tha World Bank also provides a database about the institutional obstacles for doing business (1997) but it consists of private sector survey with all the caveats that may rise from such a survey approach.

Figure 13 FDI restrictiveness in the world



*This aggregated Index covers the following sectors and sub-sectors: Business (legal, accounting, architectural, and engineering services), Telecommunications (fixed line telephony and mobile telephony), Construction, Distribution, Finance (insurance and banking), Tourism, Transport (air transport, maritime transport and road transport), Electricity and Manufacturing.

Source: OECD (2007), *International Investment Perspectives: Freedom of Investment in a changing World*, Paris

5) PUBLIC PROCUREMENT MARKETS

Public procurement markets are significant in size; in the EU they were estimated at more than € 2 trillion in 2007 or about 16% of GDP while in the US they passed the € 1 trillion mark (or 11% of GDP)[75]. No data are yet available for 2008 and 2009 but the importance of these markets is likely to have temporarily increased in many countries, on the back of the unprecedented boost in public spending across the world to stabilise the economy in the wake of the global crisis of 2009[76].

For some types of goods and services (such as pharmaceutical products, medical equipment, railway and urban transport equipment, electrical machinery, environmental services…) purchases by public entities may be dominant and therefore their procurement practices can crucially determine market access. In reality such practices are often not (primarily) guided by cost or technical considerations but rather by other policy goals such as, the promotion of local employment and/or companies or the development of "home" technologies. However, the *explicit* clauses or *implicit* practices to favour domestic suppliers that are often used for such purposes generally result in welfare-reducing outcomes similar to those associated with other protectionist instruments[77]. Yet, unlike more "traditional" barriers to foreign interests, the international rules governing public procurement leave ample room for such practices, as became very clear during the recent global crisis.

The Government Procurement Agreement (GPA) has provided the main legal framework at WTO level since 1996. It establishes a set of rights and obligations (including a schedule of commitments regarding the coverage of purchases, contracting authorities, values of contracts) for public procurement laws, regulations, and procedures founded on the WTO principles of transparency and non-discrimination. This plurilateral agreement binds 14 WTO members, including the EU's main trading partners[78]. Recently, the accession process has been completed for Chinese Taipe and the geographical coverage of the agreement is due to expand further in future with recent applications from China and Jordan. EU neighbours such as the Ukraine, Moldova, Armenia and Georgia are also seeking accession while India has become an observer along with some 23 other countries. The EU strongly supports accession of other WTO members to the GPA with the long-term objective to turn it into a multilateral Agreement.

However, the GPA does not automatically apply to all government procurement of the Parties. GPA provisions only cover public procurement above a minimum threshold and do

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75 An OECD study estimated the value of worldwide government procurement at 82% of the value of world merchandise and services trade in 1998, see D. Audet, "Government Procurement: A synthesis report", OECD Journal on Budgeting, 2 (3), 2002.

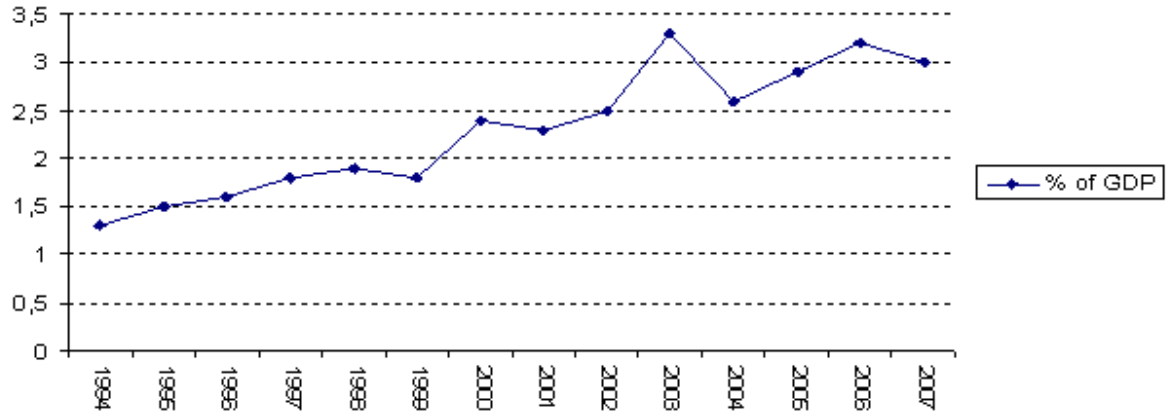
76 The OECD estimated that fiscal packages introduced as a direct response to the crisis over the period 2008-2010 amounted to about 3.5% of the OECD GDP in 2008. In non-OECD China the size of the fiscal stimulus package is thought to have been equivalent to as much as 19% of GDP. These figures are drawn from a consistent approach to the definition of fiscal packages in the different economies and are based on data from March 2009, see OECD, "Policy Responses to the Economic Crisis: Investing in Innovation for Long-term Growth, 2009.

77 The exact effect on welfare depends on a variety of factor notably the size of government purchases to domestic supply, market structures, long-run industry supply, etc. For a more details see for example S. Evenett, and B. Hoekman, "Government Procurement: Market Access, Transparency and Multilateral Trade Rules", World Bank Research Working Paper no. 3195, 2004.

78 The EU is one single Party to the Agreement. The others are Canada, Hong-Kong, Iceland, Israel, Japan, Korea, Liechtenstein, Norway, Singapore, Switzerland, Taiwan, and the United States.

not apply to all procurement entities in all countries[79]. The coverage of the agreement for each Party is specified in the GPA Annexes that identify the central and sub-central government entities as well as public utilities that are committed to complying with the market access rules in their procurement activities. The extent and depth of the legal commitments varies considerably among the Parties, which continue to impose (more or less) important restrictions on market access, including wide ranging exemptions for certain sectors and types of expenditures[80]. In general, the EU, Norway, Liechtenstein, Switzerland and Singapore have undertaken the most far-reaching legal commitments while the others (including large economies such as the US, Japan and Canada) have failed to meet the EU requests for similar coverage and held back on market opening, especially at sub-central level. While the EU had to adjust its final commitments in light of the degree of market opening of the other Parties, they nevertheless continue to be amongst the most comprehensive.

Figure 14 Evolution of above GPA threshold public procurement in the EU



Source: WTO

In the EU, the size of the public procurement market above GPA thresholds[81] (i.e. public procurement that could potentially be bound by market openness commitments) has been increasing over time. In 2007 the total amount of purchases of goods and services (incl. construction services) by public authorities and utilities across the EU27 amounted to €2088 billion, €370 billion of which (17.5% of total) was above the threshold for the application of GPA commitments[82]. Although to some extent the growth in the size of public procurement markets in the EU is a reflection of the 2004 enlargement, it nevertheless reveals rising levels

[79] Thresholds differ depending on the type procurement (goods and services) and types of procuring entities making the purchase. Thresholds are set in SDR, terms of the IMF's accounting unit of Special Drawing Rights. Each GPA Party specified in its Annexes the minimum threshold values above which procurement is covered by the Agreement. For instance, the EU thresholds for the procurement of goods and general services are the following: for central government entities 130 000 SDR, for sub-central government entities 200 000 SDR, for other entities 400 000 SDR. The threshold for construction services is 5 000 000 SDR.

[80] For example, all defence procurement is excluded from the GPA.

[81] Hence, published in the EU Official Journal TED (Tenders Electronic Daily), the online public procurement portal of the EU at http://ted.europa.eu.

[82] In 2009, the EU submitted a very comprehensive 2007 GPA statistics report and notified to the WTO its earlier statistical reports (period 1996-2006). The EU is one of the few parties whose reports cover all administrative levels (central, local and regional, bodies governed by public law, utilities) and provides detail on all contracts covered by the GPA.

of EU openness in this regard, as the share of "above GPA threshold" public procurement in GDP rose from 1.6% in 1996 to 3% in 2007, as shown in figure 14.

However, not all "above threshold" public procurement is open to foreign bidders, as indicated before. Some segments (by type of contracting authority and by type of purchase) are excluded from GPA commitments. The total amount of public procurement that is effectively open (contestable) to foreign bidders can thus be computed as the public procurement above the minimum threshold for the application of GPA rules minus the exclusions from these rules negotiated by each country. Overall, in the case of the EU it is estimated that these restrictions reduce the amount of public procurement that is contestable by foreign suppliers to €312 billion (equivalent to around 2.5% of EU GDP). For example, according to the tenders published in the EU Official Journal in 2007, €30 billion of EU government procurement were purchases by contracting entities that are excluded from the EU GPA commitments, namely entities operating in the railway services, oil and gas extraction, transport and distribution. Works concessions, which are also excluded from EU GPA commitments, amounted to €21-22 billion in 2007.

Table 12 Access to public procurement markets (2007)

	EU	US	Japan	Canada	Korea
Total PP market (% of GDP)	€ 2088 bn (16%)	€1077 bn (11%)	€ 565 bn (18%)	€ 225 bn (22%)	€ 106 bn (14%)
Total PP above GPA threshold (% of GDP)	€ 370 bn (3%)	€ 279 bn (3%)	€ 96 bn (3%)	€ 59 bn (6%)	€25 bn (3%)
PP not offered to GPA (% of GDP)	€ 58 bn (0.5%)	€ 245 bn (2.5%)	€ 74 bn (2.5%)	€ 57 bn (5.5 %)	€ 10 bn (1.0%)
PP offered to GPA	€ 312 bn	€ 34 bn	€ 22 bn	€ 2 bn	€ 15 bn
(% of GDP)	(2.5%)	(0.5%)	(0.5%)	(0.5%)	(2%)
(% of total PP market)	(15%)	(3.2%)	(4%)	(1%)	(14%)
(% of above threshold PP market)	(84%)	(12%)	(23%)	(3%)	(60%)

Source: EU Commission - DG Markt

Cross-country comparisons, which are crucial for a thorough assessment of openness, are complicated by differences in terms of the comprehensiveness of the data disclosed[83]. Table 13 compares market size and market access in the five largest parties to the GPA.. While the EU government procurement market is the largest in absolute terms, the size of these markets relative to GDP is broadly similar in the EU, Japan, and Korea (between 15% and 18% of GDP). The US market is the smallest relative to the economy (worth only 11% of GDP) and around half that of Canada, where public procurement makes up the largest share of output (22%). However, the EU procurement market is the most open to foreign suppliers. The public procurement that is legally open (contestable) to bidders from other GPA parties is equivalent to 15% of the total EU procurement market (around 2.5% of GDP), compared to

[83] There are problems regarding the coverage of the data; for example at sub-central level (e.g. US) or with public undertakings (e.g. Japan, US). Canada submitted its first statistical reports in 2008.

14% in Korea, 4% in Japan and 3% in the US[84]. In Canada, the negotiated exclusions from GPA commitments cancel out practically all access to the local public procurement markets (only 1% would remain open)[85].

In addition, the EU has included in its GPA commitments a series of derogations targeting specific countries (notably the four main GPA parties analysed above). They limit access to procurement by local authorities and services. Even in case such derogations would result in market access restrictions for these countries, the EU public procurement markets still remain more open to foreign suppliers than the markets of the US, Japan, Canada and South Korea, as can be seen in Table 12.

Table 13 Comparative openness of public procurement markets to EU firms

"Direct" access to above-threshold PP	US	Japan	Canada	Korea
Access of GPA partner's firms to EU PP (% of above threshold PP market)	27%	70%	4.3%	77%
Access of EU firms to GPA Partner's PP (% of above threshold PP market)	12%	23%	3%	50%

Source: EU Commission - DG Markt

Finally, a full assessment of openness in EU public procurement markets requires going beyond the analysis of the legal framework to look at measures of effective market access (i.e. the share of public procurement that is actually awarded to foreign companies). For the first time, the EU has concluded such an analysis based on the examination of more than 100.000 public procurement contracts published in TED in 2007. It revealed that around 14% of such contracts (worth € 11-12 billions) were awarded to foreign firms[86]. The latter also include subsidiaries of foreign firms, which in the EU (unlike in other jurisdictions) are considered to be domestic firms and therefore face no restrictions in bidding for public tenders.

The GPA has only been in place since 1996 but its review has already been underway for some years, with the aim to make it more attractive for other WTO members to join (in particular emerging and developing countries).. In December 2006, negotiators reached an understanding on a significant revision of the agreement text to make it more "user friendly". The provisions were also updated to take into account new developments in procurement

[84] A thorough international comparison should also take into account the implications of the different interpretation of the law in the various jurisdictions. For instance, in some other jurisdictions such as the US, the derogations to the agreement constitute outright bans to awarding contracts to foreign firms while in others these constitute a right to ban access. In addition, the interpretation of what is a "domestic bidder" may also differ. For example, the EU rules out any discrimination (for public procurement purposes) on the basis of national origin of the capital. Thus, the duly established subsidiary of, say, a company based in another jurisdiction (including those for which the EU has not yet concluded an agreement) is treated as a EU company and is therefore entitled to bid for any procurement contracts. However, this is not the case elsewhere.

[85] These restrictions can be traced to different types of procuring authorities and types of goods. In the US and particularly in Canada the main driving factor is the reduced market access in sub-federal (state and local) government procurement, while in Japan it is to a large extent due to the exclusion of procurement by local public corporations and by the national health system.

[86] More than 100.000 public procurement contracts and lots published in TED in 2007 have been reviewed. The bulk of these contracts have been awarded to US firms (€8-9 billion), followed by with Swiss, Canadian and Japanese firms which obtained around €1 billion of contracts each. Foreign firms were most successful in EU IT services procurement, both in absolute (€3.6 billion) and in relative terms (10% of contracts), followed by telecommunication services, computer, medical and precision equipment.

markets, including the role of electronic tools. Additional flexibility was also built in, e.g. shorter time-periods for procuring goods and services of a type available on the commercial market place. Special and differential treatment for developing countries was more clearly spelt out, in a manner that, it was hoped, would facilitate their future accessions. Domestic review procedures for challenges by suppliers and the rules for modification of the list of Parties' coverage were also a point of focus, while it was agreed to develop arbitration procedures for resolving differences. In line with the initial GPA mandate, which provides for an expansion of coverage and the elimination of discriminatory practices, the EU adopted a very pro-active stance in the negotiations. However, given that not all GPA members shared the same level of ambition, the EU had to scale down its ambition and submitted a revised offer in 2008. Negotiations are continuing.

Box 7 Emerging market economies and public procurement

Lack of data hampers comprehensive analyses of the public procurement markets in the emerging world. Estimates for 2007 reveal that public procurement markets in Brazil are worth around €133 billion, and around €64 billion in India. Argentina's market is smaller at around €15 billion. If these countries were to open all their "above-threshold" procurement, the three markets (taken together) would account for €66 billion worth of public procurement; which is comparable to one fifth of the EU procurement market that is offered to GPA partners. While relatively small, public procurement markets in emerging countries are expected to increase significantly and represent important future business opportunities. EU firms may be well positioned to benefit from these markets.

There is some evidence of increasing participation of firms from emerging economies in the EU's public procurement markets. For example, Brazilian and Chinese construction companies have been active in Portugal and the new Member States while Indian companies are participating in public contracts for IT and printing services, as well as electric machinery and equipment, particularly in the UK.

Some progress towards greater openness and transparency in public procurement has also been achieved on the bilateral front. Where no multilateral commitments exist, the aim is to put in place a legal framework for bilateral market access. Provisions to ensure greater openness in public procurement markets were already included in bilateral deals signed with Mexico and Chile as well as in the recently concluded negotiations with Iraq, Peru, Colombia, and Central America. In the trade agreements currently being negotiated by the EU the inclusion of such public procurement provisions is regarded as an important offensive interest for the Community. This concerns negotiations with major economies such as India, China, Russia, and Mercosur but also smaller countries and regions such as Ukraine, Libya, and countries of the Andean Community (Colombia, Ecuador and Peru). With other GPA parties the aim of bilateral negotiations is to obtain mutual additional coverage, i.e. beyond what both countries have committed to in the GPA context. The recently signed FTA with Korea has already successfully included public procurement provisions covering public works concessions for example. Currently there are other ongoing bilateral negotiations with GPA members (namely Canada and Singapore).

In conclusion, the EU public procurement market is relatively open to foreign suppliers. Public entities across the EU generally make their purchasing decisions guided by price and

quality considerations regardless of the nationality of the bidders, often going beyond commitments made at the multilateral and bilateral level. However, this is an area where trade partners have fallen well short of reciprocity, in particular as regards their GPA commitments.

This is partly being addressed through the ongoing GPA negotiations and new bilateral agreements while further multilateral negotiations proceed. Bilateral FTA negotiations often allow trade-offs between all sectors and therefore provide more room for manoeuvre for the EU to obtain more market access.

However, given that the openness of EU public procurement markets is often taken for granted, a more systemic trade instrument may be required in order to secure improved symmetry in access to public procurement markets. Such an instrument could respond to stakeholders' requests to clarify the conditions of access of third countries operators to the EU procurement market while putting additional pressure on trading partners to open up their markets. To achieve this goal, access of suppliers from countries that maintain protectionist measures could be temporarily restricted in specific EU procurement sectors. Such temporary restrictions could only affect the procurement that is not covered by EU international commitments (both multilateral and bilateral). Regarding trading partners with whom it has not been possible for the EU to agree on market access commitments so far, there would be wide room for manoeuvre. In case of GPA or FTA partners, restrictions could target procurement left out of EU commitments, such as that covered by the country-specification derogations specified in the EU's general notes to the GPA[87].

[87] Under GPA 1994, these country-specific derogations concern, for instance, the suppliers and services providers from Canada or Japan to EU utilities procurement entities.

IV CROSS-CUTTING AREAS

1) TRADE AND DEVELOPMENT

Although the relationship between trade and development is a complex one, there is evidence that trade and openness are nevertheless important elements supporting the creation of jobs and prosperity in developing countries. Developing countries that have opened their markets have often seen high growth rates, and many have found that - when combined with sound domestic policies - trade openness can be an important basis for economic growth. On the other hand, no developing country has achieved sustained growth by erecting high trade barriers and limiting exports.

Open trade policies create opportunities for economic growth. In addition, globalization, trade and FDI integration are associated with better, not worse, working conditions. When examining the impact of international trade and FDI effects on labour conditions, there is convincing evidence that trade and FDI openness play a positive role.[88] However, trade opening needs to be accompanied by domestic policies to create decent jobs. Countries promoting decent work objectives are better placed to benefit from trade opening. The EU emphasizes the promotion of social and labour clauses in its bilateral trade agreements and in unilateral GSP+ trade preferences. It relies on cooperation, transparency and dialogue with our trade partners.

The Doha Development Agenda (DDA) is the first multilateral trade negotiation launched as a development round. Key elements for developing countries in the negotiations are (i) enhanced market access (ii) reduction or elimination of subsidies in agriculture and (iii) trade facilitation. Trade facilitation in particular is vital for developing countries, since in many cases trade costs depend critically on the efficiency and cost of entry and exit of goods in the trading country, as well as on the cost of transit of goods via neighbouring countries.

The Economic Partnership Agreements (EPAs) between the EU and the African, Caribbean and Pacific (ACP) group of countries are a key tool for promoting sustainable growth and development in these countries. The EPAs seek to remove barriers to trade, encourage regional integration and boost regional markets, whilst ensuring that the ACP countries have sufficient time to make reforms. These are further supported by provisions such as the right to regulate to protect the environment or the rights of workers, and by links to enhanced development cooperation to support the implementation of the agreement.

Developing countries need assistance in building their capacity to trade (and to cope with the inevitable reallocation of resources that follows from trade liberalisation). Aid for Trade is financial assistance for developing countries that is specifically targeted at helping them develop their capacity to trade, and the EU is the world's largest provider of Aid for Trade. In 2007, total Aid for Trade from the EU amounted to €7.2 billion, and specific commitments on trade-related assistance reached €2 billion.

One of the centrepieces of the EU's trade and development policies is the EU's GSP scheme. It has been in force for nearly 40 years and has been modified on several occasions, most

[88] For instance, Newmayer and de Soysa (2005) present evidence that countries that are more open to trade and/or have a higher stock of foreign direct investment also have a lower incidence of child labour. See Newmayer and de Soysa 'Trade Openness, Foreign Direct Investment and Child Labor', World Development, 33 (1), 2005, pp. 43–63.

often with respect to product coverage and preferential margins. In June 2008, the EU adopted the latest revision of the scheme which runs from 1 January 2009 until the end of 2011. The University of Sussex has carried out a comprehensive evaluation of the EU's GSP and found that it can be effective in increasing exports and welfare; that utilisation rates are typically high; that exporters tend to benefit from preference margins received; and that countries seeking GSP+ status are making efforts to ratify the appropriate conventions.[89]

However, the study also found that the generally low level of EU MFN tariffs and the trade structure of many beneficiaries' inevitably limit the effectiveness of the GSP regime. In addition, other studies have shown that utilisation rates of preferences tend to decrease with lower values of preferential imports.[90] Further analysis is therefore needed in order to ascertain whether the simplified procedure in place (for consignments of less than €6000) for obtaining a certificate of origin needs to be accompanied by a higher threshold and/or if measures should be taken by the exporting countries to increase the preference utilisation rate for small trade flows.

In view, inter alia, of the progress made under the Doha Round and the negotiations of the EPAs with the ACP countries (and with other developing countries such as those in Central America or in the Andean Community), the Commission will reflect on future EU trade policy vis-à-vis developing countries in a forthcoming Communication on Trade and Development. Particular attention will be paid to the autonomous trade instruments, such as the GSP, and bilateral/ regional trade policy options that the European Union has at hand and the fact that larger emerging economies have different development needs from those of small, poor and vulnerable countries.

Global commerce is characterized by large and increasing volumes of trade in intermediate products. Producers take advantage of different costs in different locations to source the cheapest inputs possible. Allowing producers access to raw materials or intermediate products from low cost international sources through relaxed rules of origin (RoO) is therefore vital. This will generate economic activity in the beneficiary country and facilitate development. In developing countries, where labour is most often abundant and cheap, even simple manufacturing operations that provide only low levels of value added can create important job opportunities.

For specific situations, e.g. in case of earthquakes, flooding, etc., one could also envisage time limited ad-hoc initiative in the area of rules of origin involving the private sector and a number of countries. For example, a finished product (associated e.g. with a high tariff on exporting markets) produced anywhere in the world using a certain amount of intermediate inputs from the crisis-hit country (associated e.g. with a low tariff on exporting markets) could become subject to duty free treatment when imported. Tropical fruits contained in downstream processed food products are one example. With a high enough tariff on the final good, such an incentive may be enough for large private companies to decide to source some of the intermediates from the crisis-hit country, and to ensure - for reasons of goodwill and corporate social responsibility - that some of the proceeds are channelled back to those in need.

[89] Gasiorek M. et al, 'Mid-term Evaluation of the EU's Generalised System of Preferences', CARIS, University of Sussex, 2005. Available at http://trade.ec.europa.eu/doclib/docs/2010/may/tradoc_146196.pdf.

[90] See e.g. Nilsson, L. 'Small trade flows and preference utilization', *mimeo*, European Commission, DG Trade, 2009. Available at http://www.etsg.org/ETSG2009/papers/nilsson.pdf.

2) SUSTAINABLE TRADE AND CLIMATE CHANGE

It is difficult to make general statements about the impact of trade on the environment – e.g. in terms of climate change emissions, depletion of natural resources and biodiversity loss. Positive and negative effect may occur side by side. Standard environmental analysis methods[91] suggest that trade can potentially have several types of impact on the environment. Trade as an activity that transfers goods from one country to another can have an impact on the environment, the traded products themselves can affect the environment, trade can expand economic activity, and trade can change the composition of a production. To illustrate the complexity of assessing the environmental footprint of trade in a tractable way, we focus on climate change effects in the remainder of this section.

The impact of trade opening on climate change

CO_2 emissions embodied in international trade have been estimated at close to 22% of all global CO_2 emissions[92]. This includes pollution due to production and emissions due to international transport. Emissions due to international transport of goods were estimated to account for 4-6% of human-caused greenhouse gas (GHG- emissions in 2000[93]. This figure may have increased given the rapid growth of exports relative to world GDP over the last decade, unless the technique effect has prevailed.

There is a widely-held view that, since external trade normally involves transportation of goods over longer distances than in the case of domestic trade, any further trade opening entails increased GHG emissions. This has contributed to a negative perception of the "carbon footprint" of trade opening and traded goods. However this view is incomplete. Emissions from transport are only one component of the emission effects of trade and trade opening. A more complete picture should include not only emissions from expanded economic and transport activity, but also differences in emissions according to the place of production and the production technology, fuel and raw material used. Moreover, the picture can also be affected by differences in emission reduction costs between countries and sectors. The net emission balance depends on a combination of three effects:

- The scale effect or emission increase resulting from an expansion of economic production and use of carbon-based energy for production, and a result of a greater use of cross-border transport services that also use energy. Globally this effect is emission-increasing.

- The composition effect arises from changes in a country's production and consumption pattern triggered by tariff dismantling and reductions in the trade cost of non-tariff barriers. The net emission impact depends on changes in production in low-emission and emission-intensive sectors.

- The technique effect refers to improvements in the emission efficiency in production and transport. More open trade may increase the availability and lower the costs of climate-friendly goods and services as more climate-friendly technologies became accessible and as external demand for those technologies increases with falling trade barriers.

[91] See in particular *The Environmental Effects of Trade*, Paris, OECD, 1994

[92] Peters, G.P. and Hertwich, E.G. (2008a), "CO2 Embodied in International Trade with Implications for Global Climate Policy", *Environmental Science & Technology* 42:5, pp. 1401-1407. Hummels D. (2009). *How Further Trade Liberalisation would Change Greenhouse Gas Emissions from International Freight Transport*. Paper prepared for OECD Global Forum on Trade and Climate Change.

[93] OECD (2009), *Trade, Transport and Climate Change*, draft paper of the Joint Working Party in Trade and Environment, Organisation for Economic Cooperation and Development: Paris.

The scale effect contributes to a negative perception of trade. However, this can be countered by emission-reducing composition and technique effects. Countries with a comparative advantage in low-emission industries could benefit from an emission-lowering composition effect. However, in a country with a comparative advantage in emission-intensive industries, either because of economic factors and/or because of weak environmental regulation, trade opening may increase emissions. Such problems could be tackled for instance by linking trade opening in the sector concerned to improvements in relevant environmental legislation and related enforcement, e.g. through environmental provisions in the trade and sustainable development chapter of the bilateral trade agreement negotiated with that country, or by means of a robust international environmental agreement. The technique effect could also make a positive contribution and can be strengthened by means of provisions that facilitate the transfer of emission-reducing technology, for example by removing the barriers to trade in climate friendly goods and technologies. A joint World Trade Organisation (WTO) - United Nations Environmental Programme (UNEP) report (2009) summarizes the findings of several studies on the effects of trade opening on climate change[94]. Some studies conclude that trade opening increases CO_2 emissions, due to strong scale effects and weak technique effects while others suggest that the technique effect dominates the scale and the composition effects only for CO_2 emissions in OECD countries, but has a detrimental effect on CO_2 emissions in non-OECD countries[95].

The impact of climate change policies on trade

Trade policies can affect GHG emissions. By the same token, emission reduction policies can also affect trade. The most obvious example is the binding emission ceilings under the UN Framework Convention on Climate Change (UNFCCC) Kyoto Protocol[96]. In the case of a trade agreement between two countries that accept and enforce these binding ceilings, the sum of the three above-described effects of a trade agreement should be zero in each of the two countries. Any increases in emissions caused by increased production and trade, brought about by a trade agreement, are compensated for by a reshuffling of available emission rights between sectors (composition effect) or changes in production technology (technique effect). This excludes the emissions caused by international transport of goods. As the cost of reducing GHG emissions varies from sector to sector, the final outcome of this re-allocation of emission rights between sectors is hard to predict. The sectors that ultimately reap the economic benefits from a trade agreement may well be different from those that benefit directly from the trade opening provided for in the agreement. Emission constraints and tradable emission rights add a new factor of comparative advantage in international trade, especially for energy-intensive sectors.

The implementation of measure to reduce emissions and comply with the emission constraints to which countries signed up under the Kyoto Protocol is costly and typically increases

[94] WTO-UNEP (2009) "Trade and Climate Change" can be found at http://www.unep.org

[95] Antweiller, W., Copeland, B.R. and Taylor, M.S. (2001) "Is Free Trade Good for the Environment?" *American Economic Review* 91:4, pp. 877-908. Cole, M.A. and Elliott, R.J.R. (2003), "Determining the Trade–Environment Composition Effect: The Role of Capital, Labor and Environmental Regulations", *Journal of Environmental Economics and Management* 46:3, pp. 363-383. Managi, S., Hibiki, A. and Tsurumi, T. (2008), "Does Trade Liberalization Reduce Pollution Emissions", *Research Institute of Economy, Trade and Industry (RIETI) Discussion Paper* Series 08-E-013. Frankel, J. and Rose, A. (2005), "Is Trade Good or Bad for the Environment? Sorting Out the Causality", *Review of Economics and Statistics* 87:1, pp. 85-91. McCarney, G. and Adamowicz, V. (2005), *The Eff ects of Trade Liberalization on the Environment: An Empirical Study*, selected paper prepared for presentation at the Canadian Agricultural Economics Society Annual Meeting 6-8 July, San Francisco, California.

[96] Under the Kyoto Protocol, this refers to the so-called "Annex A" countries which include: all EU member states, EFTA countries, Canada, Japan, Australia and New Zealand. Kyoto expires in 2013.

production costs. However, it can be noted in this context that strict emission constraints stimulate efficiency and encourage innovation and can therefore also improve competitiveness and reduce production cost, in particular in the mid- and long-run.

As a result of reduction measures, industrial activity in some sectors may relocate in the short run to countries that do not impose such stringent emission reduction measures, i.e. mainly the countries outside Annex I of the Kyoto Protocol. When displacement of production results in an increase in global emission, this phenomenon is called "carbon leakage". In the EU, the Emission Trading Scheme (ETS) is the main component of the climate change policy package. The ETS is a cap-and-trade system. Other possible measures include carbon taxes and direct regulation of energy efficiency and emissions by means of technical standards for individual goods as well as for entire sectors and industries. These measures can increase the cost of both energy use and emissions, and thereby the cost of production; they may reduce profitability and market shares for the targeted goods, sectors and economies, depending on market structures. This opens up two possible channels to move production and emissions between countries and thereby create carbon leakage.

First, producers in countries with weak or no emission reduction measures are not confronted by these cost increases and may therefore gain in terms of competitiveness and market share. Second, reduced energy demand in countries that restrict emissions will reduce the worldwide price of energy and facilitate more energy intensive production. In case of an EU 20% reduction target and with other countries implementing their pledges put forward in the Copenhagen Accord, carbon leakage is estimated to be less than 1% production loss for most of the energy intensive industries in the EU.[97] Carbon leakage reduces the effectiveness of climate change mitigation measures and allows countries that do not impose such measures to free-ride, not only on the long-term climate change mitigation benefits but also on the short-term trade benefits. Energy intensive sectors are most at risk because the increases in production cost are the highest. However, trade intensity, market structures and competitive pressures vary considerably from one industry to another, resulting in differences in abilities to pass on the costs to consumers and losses in market shares[98].

The first-best solution to avoid leakage would be a global climate change agreement whereby all major economies would agree to take measures to limit their emissions. Common action would considerably reduce leakage as production cost differences would be limited. In the absence of such an agreement and with only a limited number of countries that actively implement emission reductions, unilateral action such as the EU ETS may lead to a risk of carbon leakage. However, there are several ways in which leakage can be addressed.

One possibility is to design a free emission allowance allocation system that reduces the cost of production for the most exposed sectors. This reduces the amount of allowances that the sector is required to purchase. Research and experience show that this restores the competitive level playing field with producers in countries that are not subject to emission restrictions.

The EU Emissions Trading Scheme currently allows for the use of international credits, thereby lowering the price of compliance for our operators. However, there are additional compatible measures, which would further reduce the risk of carbon leakage. One possibility is to consider applying a more targeted approach to the nature and recognition of international credits in the EU Emissions Trading Scheme. The clean development mechanism (CDM) allows investors to implement emission reduction projects in developing countries not subject

[97] Commission Communication: "Analysis of options to move beyond 20% greenhouse gas emission reductions and assessing the risk of carbon leakage" (May 2010)

[98] European Commission Decision 2010/ 2 established a list of sectors deemed to be exposed to a significant risk of carbon leakage.

to Annex I emission ceilings, and sell the related emission reductions on international emission certificate markets. The CDM, however, allows for all of the reduction effort to be credited and therefore does not require a reduction contribution from the developing country. An EU approach could reinforce efforts to move away from pure offsetting approaches, like the CDM, towards sectoral crediting (except for the Least Developed Countries) whereby an own contribution is undertaken by developing countries. Further, the EU could restrict the use of CDM credits generated in energy-intensive sectors in third countries other than the Least Developed Countries. These types of actions could help to bring low-carbon measures in other countries closer to EU levels, close the competitive gap for energy-intensive industries and reduce the risk of carbon leakage in the EU ETS in the corresponding sectors.

A third possibility that has attracted considerable attention in trade policy circles is the introduction of border measures: border taxes or mandatory emission allowance purchases by importers, with a possible rebate for exporters. However, analyses suggest considerable difficulties with the practical implementation of such potential measures. Full border measures applied to all imports will not be feasible in practice. They would require detailed and worldwide information on the carbon contents of all production processes for all imported goods. Border measures would have to be limited to sectors at risk of carbon leakage. A possible simplification would be to use standard carbon content figures, based on the best available technology or on EU benchmarks. However, this would require an option to enable producers to submit evidence that their emissions are below this benchmark, which would still entail considerable administrative burden and verification of the performance of individual installations in third countries. Furthermore, the potential for substitution of imports between less efficient and more efficient producers could undermine its effectiveness. Most importantly, the introduction of border measures could arouse considerable controversy in the WTO and would not be conducive to concluding the negotiations on a new global climate change agreement under the auspices of the UNFCCC.

Trade policy instruments to mitigate climate change

Emission reduction is mainly achieved by means of specific climate change related policy measures such as carbon taxes, cap-and-trade systems and energy efficiency regulation. These policy instruments have an impact on trade. However, there are also trade policy instruments that directly address climate change issues. Many countries have started to apply a wide range of regulatory measures to reduce emissions, for instance through technical standards that aim to reduce energy consumption and emissions of a wide range of goods as well as production processes. While these measures may be legitimate means to mitigate climate change, regulatory autonomy of countries in this area should be preserved and care should be taken to avoid a resurgence of protectionism under the guise of environmental policies – often alluded to as "Green Protectionism". Environmental measures should comply with the WTO TBT Agreement.

One of the ways in which trade policy can actively contribute to mitigating climate change and reducing greenhouse gas emissions is by reducing tariffs and other barriers to trade in environmental and climate friendly goods and services. This has been actively pursued by the EU in the context of the WTO Doha Development Round trade negotiations. Reducing tariffs on environmental goods would facilitate trade in goods that embody low-emission technologies and spread these technologies more widely and faster in the global economy. Tariffs on environmental goods would decrease from 4.4% to 3.6% if the applied tariffs were cut to the new bound rates in the December 2008 DDA negotiating proposal. For developing countries, tariffs on environmental goods would be cut to 4.3% on average; for developed countries they would decrease from 1.3% to 1.1%. Global trade in environmental goods

would increase by € 14 billion; EU exports would increase by € 5.8 billion[99]. Some developing countries suggested lowering the barriers to access the technological know-how and facilitating access to patented climate change related technologies. However, evidence shows that patents are not really a bottleneck in the spreading of climate change technologies[100]. On the contrary, strong IPR rules and their implementation are necessary to facilitate innovation and private sector investment that will facilitate the spreading of more advanced technologies that are needed to achieve climate change objectives more effectively.

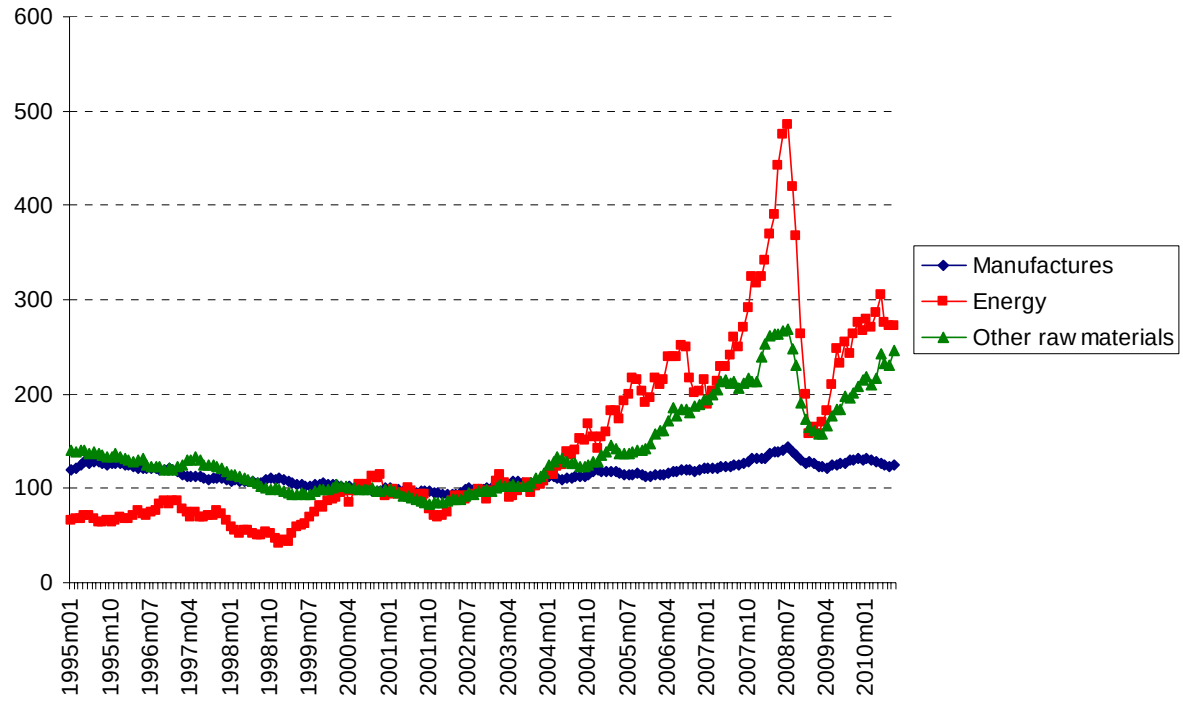
[99] Commission services estimates. The results are based on analysis covering the EU plus 22 trading partners, accounting for 83% of world imports of environmental goods. The analysis used the WTO's "friends list" of goods, i.e. not necessarily environmentally efficient goods but goods that have a role in addressing environmental issues, such as for instance goods used to construct solar panels,

[100] Copenhagen Economics "Are IPR a barrier to the transfer of climate change technology?", January 2009

3) ACCESS TO RAW MATERIALS AND GLOBAL WELFARE

In recent years, the issue of ensuring a sustainable supply of raw materials has been placed firmly on the EU policy agenda. While the critical role of raw materials for manufacturing is not new, the growth in global demand and the upward price pressure driven by the rapid industrialisation of emerging economies has triggered renewed concerns with regard to the functioning of global markets, see Figure 15. At the same time, the link with the development of new technologies has become increasingly evident bringing to light the critical role of some raw materials in making the EU into a more innovative and greener economy[101].

Figure 15 World price index (year 2000 = 100)



Source: CPB, World Trade Monitor

Most natural raw materials are concentrated in a limited number of countries and often have few if any substitutes, given the present state of the technology. This makes most countries fundamentally interdependent and bestows a critical role on trade and trade policy. The EU, being highly dependent on imports of raw materials, is particularly vulnerable to measures

[101] The demand for raw materials has for long been intrinsically linked with technological change. While new technologies are developed for reducing the consumption intensity of some natural resources, the demand for certain raw materials can be expected to accelerate with the development of new technologies and new industrial goods (such as mobile phones, thin layer photovoltaics, lithium-ion batteries, fibre optic cable, and synthetic fuels, among may others), see report to the Commission "Critical Raw Materials for the EU" by *ad hoc* group of the Raw Materials Supply Group available at: http://ec.europa.eu/enterprise/policies/raw-materials/critical/index_en.htm

that restrict exports of raw materials, especially those imposed by countries which have a monopoly or quasi-monopoly on supply[102]. However, tackling this kind of trade distortive measures is particularly challenging given that their use is not fully ruled out by the current WTO disciplines. While quantitative restrictions (notably export quotas and export licences) are subject to GATT rules (under GATT Article XI), export taxes are generally not covered by multilateral disciplines[103].

Box 8 Worldwide use of restrictions on raw materials exports

The use of export restrictions applied to raw materials has been growing in recent years with a proliferation of measures in various countries. A recent study by the OECD shows that 65 of 128 WTO members were applying export duties during 2003-2009[104]. Data collected by the Commission[105] shows that, as of September 2009**,** the EU faced over 1200 export restrictions.[106] The countries imposing the largest number of measures included Argentina (888), Ukraine (80), China (40), Russia (39), South Africa (30), Kazakhstan (27) and Algeria (25). The most affected sectors were "Agricultural products", "Minerals", "Chemicals", "Raw hides and skins", "Leather", "Wood and wood products", and "Metals".

Academic studies[107] confirm the idea that export restrictions are "beggar thy neighbour" instruments that reduce global welfare. The use of export restrictions by a country puts pressure on other exporters to follow suit unleashing retaliatory policy practices that exacerbate the distortions in global markets and push up prices. Export taxes can harm the competitiveness of EU industries as they create unfair advantages for firms in downstream sectors in the countries imposing the restrictions. These firms benefit from an "indirect subsidy" resulting from privileged access to cheaper inputs.

Moreover, contrary to the common perception, the negative implications associated with the use of export restrictions go far beyond the North-South divide. The distortions to the

[102] Recently the Commission put forward a list of 14 raw materials that were considered as "critical" (out of 41 minerals and metals analysed): antimony, beryllium, cobalt, fluorspar, gallium, germanium, graphite, indium, magnesium, niobium, PGMs (Platinum Group Metals), rare earths, tantalum and tungsten. The list was established in the framework of the 2008 "EU Raw Materials Initiative", see http://ec.europa.eu/enterprise/policies/raw-materials/critical/index_en.htm. The supply risk is due to the fact that a high share of the worldwide production mainly comes from a handful of countries: China (antimony, fluorspar, gallium, germanium, graphite, indium, magnesium, rare earths, and tungsten), Russia (PGM), the Democratic Republic of Congo (cobalt, tantalum) and Brazil (niobium and tantalum). This production concentration, in many cases, is compounded by low substitutability and low recycling rates.

[103] Except when provisions were negotiated in WTO accession protocols.

[104] This represented a marked increase relative to the period 1997-2002 when 39 (out of 100) WTO Members were using such instruments, see J. Kim, "Recent trends in export restrictions", OECD Trade Policy Working papers, 101, 2010.

[105] The database covers 19 countries including Algeria, Argentina, Brazil, China, Egypt, India, Indonesia, Kazakhstan, Russia, South Africa, Thailand and Ukraine. A measure is defined as a tariff line at HS4 level being subject to a quantitative restriction (export quota or export ban), an export tax, or a non-automatic export licensing process.

[106] A measure is defined as a tariff line at HS4 level being subject to a quantitative restriction (export quota or export ban), an export tax, or a non-automatic export licensing process; see DG Trade Raw materials 2009 Annual Report, http://trade.ec.europa.eu/doclib/docs/2010/june/tradoc_146207.pdf

[107] See A. Bouet and D. Laborde, "The economics of export taxation: a theoretical and CGE-approach contribution", 2009, available on http://www.oecd.org/dataoecd/56/3/43965958.pdf

functioning international markets of raw materials are also problematic from a development point of view. Not only do higher world prices directly harm the developing economies that are dependent on international markets for their supply of raw materials but also the countries imposing these trade restrictions lose out. Even if gains could be had from an improvement in their "terms-of-trade" (for example in the case of a country with a dominant position in the global supply of a certain raw material) the reduction of domestic prices would discourage further investment in the production/extraction of the raw material. Moreover, the "implicit subsidies" to downstream producers would encourage "excessive" domestic consumption of the taxed goods. Thus, in the long run, export restrictions may actually endanger these countries' capacity to produce raw materials while failing to ensure the development of a sustainable basis for competitiveness in downstream industries.

Against this background, the Commission developed a strategy for trade in raw materials (within its overall strategy on raw materials.[108] The aim is to tackle restrictions that hamper the sustainable supply of raw materials in global markets when they compromise supply to the EU and/or distort the level-playing field between downstream EU economic operators and operators from third countries. This strategy is based on three main pillars: (i) include relevant disciplines in negotiations both at the multilateral and bilateral level, (ii) challenge existing restrictions in particular under the dispute settlement measures when they violate WTO or bilateral rules, and (iii) reach out to third countries, to convince them that the issue of access to raw materials is not just an EU problem and that it is in their own best interest to look into the added value of rules. This strategy is pursued by having the topic aired in bilateral and plurilateral discussion settings (OECD).

[108] See, "The raw materials initiative - meeting our critical needs for growth and jobs in Europe", COM(2008) 699.

4) SMART TRADE, INNOVATION AND IPR

The acknowledgement that trade is one of the main drivers of economic growth and channels of transmission of specialised skills, goes back as far as Adam Smith and David Ricardo. In modern times, economists have put knowledge at the centre of economic growth. Knowledge transmission has become the key variable in spreading the benefits of economic development across the globe. Trade is one of the most important vehicles for knowledge transmission around the world: it transfers knowledge embodied in goods, services and investment.

Knowledge can also be transferred in "disembodied" forms, i.e. pure ideas transmitted through learning. While ideas are, by their nature, non-rival and non-excludable[109], the use of some inventions, distinctive signs, works of art, etc. has been made legally exclusive by means of intellectual property rights (IPR) such as patents, licences, copyrights, trademarks, etc. IPR create a monopoly on creations which allows rights holders to reap the benefits of their investment in producing these creations and prevent free copying/use by third parties. IPR strengthen the economic incentive to invest in research and creativity. However, the balance between public and private benefits and the extent to which such exclusive rights should be granted is a subject of intense debate, especially for creations that contribute to the production of important social and public goods.

The link between trade, transfer of innovation and economic growth is by now well-known[110]. Clearly, IPR-covered innovative technologies play a role in this. The knowledge embodied in traded goods, as measured by the R&D and patent intensity of goods for instance, and the positive impact of this trade on innovation and economic growth in the importing and exporting countries, has been empirically demonstrated[111]. Similar innovation transfer mechanisms have been demonstrated in foreign direct investment flows. Patents are an important vehicle in these international technology transfers. It has been shown that the legal use of patents, as documented by patent citations[112] for instance, has been shown to play an important role in trade and technology transfers between developed countries and emerging market economies[113]. Emerging market economies benefit more easily from foreign knowledge transfers once they have reached a certain level of technical absorption capacity. For low-income countries at a lower level of technological development, these benefits are more difficult to achieve, although IPR systems may help them leverage local creations such as music and literature

How do these concepts translate into the reality of EU trade flows?

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[109] Non-rival means that ideas can be used by many persons at the same time, without any reduction in user benefits for all these users. A physical good can normally be used by one or a few persons at the time; adding more users quickly leads to diminishing benefits. Non-excludable means that other persons can not be excluded from using these ideas once they are known. Property rights impose legal restrictions and exclusive use rights.

[110] G. Grossman & E. Helpman (1991) " Trade, Knowledge Spillovers, and Growth", NBER Working Paper No. w3485. Stephen Redding & James Proudman, 1998. "Productivity convergence and international openness," Bank of England working papers 77.

[111] D. Coe and E. Helpman (1995) "International R&D Spillovers", NBER Working Paper No. W4444. Bruno Van Pottelsberghe De La Potterie & Frank Lichtenberg, 2001. "Does Foreign Direct Investment Transfer Technology Across Borders?," The Review of Economics and Statistics, MIT Press, vol. 83(3), pages 490-497, August.

[112] Patent citations refer to earlier patents cited in newly registered patents.

[113] Bascavusoglu (2005) " Does International Trade Transfer Technology to Emerging Countries? A Patent Citation Analysis", UK Open University Research Center, working paper nr 14.

Despite the economic crisis, the EU has shown remarkable resilience in its capacity to export relatively expensive and technology-intensive goods[114]. The EU has performed well in up-market products, where it is maintaining its market share even when other developed country partners are losing ground (see section II.1). In other words the EU has managed to continue to command relatively high prices for its products compared to those prevailing on the world market. EU companies continue to supply a large share of the world market in high tech and medium tech products. In spite of their well documented weaknesses, especially in information technologies, they have shown resilience in high-tech sectors, in contrast to companies from the US and Japan which have lost significant market share. China has clearly made major inroads into these markets.

Table 14: Decomposition of factors that affect changes in world market shares, for high-tech and up-market products (1994-2007)

	Market share % Δ	Contributions to changes in market share :		
		Performance	Structural effects	
			Geographic composition	Sector composition
Technological products				
EU25	**6.7**	**-14.7**	**0.8**	**20.5**
EU15	**0.5**	**-20.9**	**0.1**	**21.3**
NMS10	**165.7**	**149.2**	**10.4**	**6.1**
USA	-60.4	-74.8	6.6	7.8
Japan	-96.4	-99.7	5.3	-2.0
China	185.9	220.0	-14.5	-19.6
India	119.6	80.6	4.7	34.3
Russia	54.9	13.5	39	2.4
Brazil	102.1	108	-21.3	15.4
Up-market products				
EU25	**1.6**	**-1.5**	**-4.7**	**7.8**
EU15	**-2.2**	**-5.0**	**-5.3**	**8.1**
NMS10	**168.1**	**160.3**	**10.7**	**-2.9**
USA	-38.8	-43.5	4.0	0.7
Japan	-42.8	-58.9	9.8	6.3
China	171.1	226.7	-14.5	-41.1
India	121.4	142.9	-3.3	-18.3
Russia	31.6	-19	24	26.6
Brazil	-3.0	24.9	-13	-14.8

Source: CEPII (2010). See footnote 5 for the full reference.

Table 14 presents a more complete picture of the performance of the EU and its major trading partners in high-tech and high-priced (up-market) products over the period 1994-2007. The first column shows the percentage change in market shares over that period for high-tech and high-priced goods. Clearly, emerging market economies have substantially increased their

[114] A. Cheptea, L. Fontagné and S. Zignago (2010) "European export performance", CEPII working document nr 2010-12, available at www.cepii.fr.

market share, although starting from low figures in 1994. But while the US and Japan have lost a significant part of their export market, the EU has held steady. The next three columns decompose that change in export market share into three factors: changes in the growth rate of the sector and the growth rate of the (geographical) destination market – two factors largely outside the control of the exporter – and changes in own "performance", a factor controlled by the exporter. The EU's performance measure has clearly weakened in high-tech products and to a lesser extent in high-priced up-market products, but far less so than for the US and Japan. However, the latter two have better focused their exports on growing sectors and destination markets. China has very much improved its performance indicator, probably starting from a very low basis in 1994, but its handicapped by poor geographic focus and sectoral structure. India, Russia and Brazil show a mixed performance on these indicators.

Sustained performance in global markets and external competitiveness are driven to a large extent by R&D activities. Trade is an important means to facilitate "smart growth" and access to R&D. Dissemination of technology can occur through a variety of trade channels including: imports of high-tech products, foreign direct investments by multinational corporations and acquisition of human capital.

An open EU trade policy supports these transmission mechanisms and allows EU firms to access new markets and expand the scale of their production, thus reducing the cost of R&D and increasing the returns to innovation. Both exports and imports can play an important role in promoting technological and innovation spill-overs for EU companies. It is usually argued that the rapid increase in exports of primarily low-tech manufactured goods from emerging markets, particularly in Asia has eroded the comparative advantage and the industrial base in developed countries. However, an often neglected effect is the indirect effect of increased imports (both of intermediate and finished products) on the ability of EU producers to export and move up the technological ladder. For instance, using a panel of over 200,000 European firms, researchers demonstrated that import competition led to both within-firm technology upgrading and between-firm reallocation of employment towards more technologically advanced firms or subsidiaries. These effects account for about 15-20% of technology upgrading between 2000 and 2007. These results suggest that trade with low wage countries appear to have potentially large beneficial impacts on technical change, as recent theories suggest[115].

Certainly, EU production of, and specialisation in, high-tech and R&D intensive trade could be improved. Open trade, as a vehicle for technology transfers, can contribute to this. However, the current EU export structure already embodies considerable know-how and technology. Another issue then is the extent to which the IPR on embodied innovative technologies yield dividends for EU innovators. Much of these dividends are of course reaped through higher prices that innovative goods fetch on world markets. Another stream of dividends, for disembodied knowledge, comes in through royalties and license fees. In 2009, the EU received about € 25 bln in royalties and licences fees, of which € 9 bln from the US and nearly € 1.7 bln each from Japan and China. In that same year, it paid about € 39 bln in royalties and fees, including € 21 bln to the US, € 4 bln to Switzerland and € 2 bln to Japan[116].

[115] Nicholas Bloom , Mirko Draca, John Van Reenen (2009): "Trade induced technical change? The impact of Chinese imports on innovation, diffusion and productivity", Stanford university working paper.
[116] Source: Eurostat

A related question is the degree of protection that EU export markets offer in respect of both knowledge embodied in traded goods and disembodied knowledge. Table 15 below presents IPR protection scores for the EU and its main trading partners[117]. This highlights the risks that EU IPR holders run when they export IPR-intensive goods, carry out FDI transactions in IPR-intensive sectors or licence their IPR rights to agents in these countries. Conversely, it is also an indicator of risk of IPR violations when the EU imports goods from these countries.

Table 15 IPR protection scores for the EU and trading partners

Country	IPR score
EU27	7,7
EFTA	8,2
US	8,5
Japan	8,3
Korea	7,0
ASEAN	5,7
GCC	5,4
India	5,3
Mercosur	4,9
China	4,8
Russia	4,6
Candidates / Balkans	4,5
Neighbourhood	3,6
Source: IPRI 2010 Report[118] Note: trade-weighted averages	

The average EU score of 7.7 hides wide variations among member states (between 4.4 and 8.5). IPR legislation in the EU is a Member States competence in a number of areas, and is harmonised at EU level in other areas. The wide variation illustrates the need to move forward in the completion of an internal market for intellectual property rights, including an EU patent, not only as a way to improve the EU's overall score but also to reinforce credibility vis à vis its trade partners.

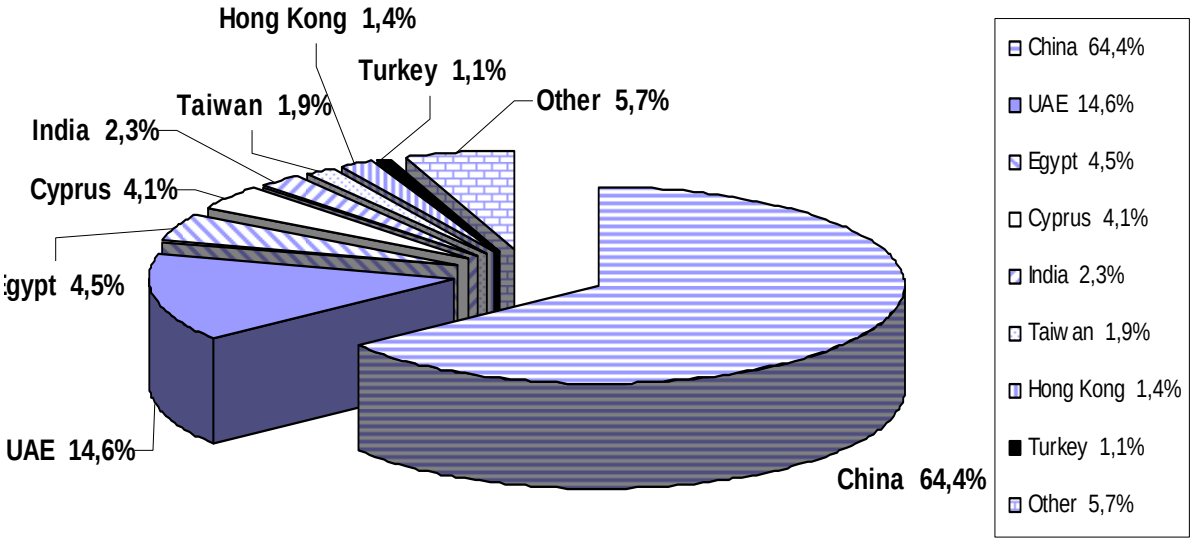
The best scores are found among the EU's most developed trading partners, EFTA, US, Japan and Korea. Other trading partners' scores are considerably below those of the EU. The EU's closest neighbours are actually at the bottom of the ranking, indicating that the EU also needs to improve IPR protection in its own vicinity.

Figure 16 Country of provenance[119] of detained goods imported into the EU

[117] IPRI scores are taken from the International Property Rights Index 2010 and range from 0 (no protection) to 10 (perfect protection). The scores are based on three survey-based measures: the intellectual property protection survey results (WEF Global Competitiveness Index 2009), the Ginarte-Park Index of patent rights protection (2005) and the Intellectual Property Alliance 2009 indicator of effective enforcement of copyrights.

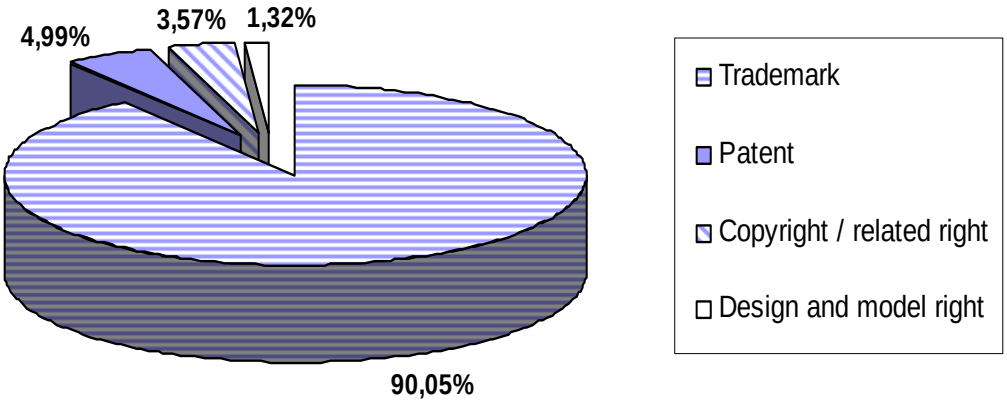
[118] International Property Rights Index 2010, available at http://www.internationalpropertyrightsindex.org/

[119] The country of provenance of a shipment is not necessarily the same as the country of origin of the goods.



Source: European Commission "Report on EU customs enforcement of intellectual property rights. Results at the EU border – 2009". Full report available at http://ec.europa.eu/taxation_customs/resources/documents/customs/customs_controls/counterfeit_piracy/statistics/statistics_2009.pdf

Figure 17 Types of IP rights related to the detained goods



Source: idem figure 16.

According to the IPRI report, the IPR scores are positively correlated with GDP: developed countries have stronger incentives to enforce IPR than developing countries[120]. This may partly explain the conflicting interests between developed and developing countries on IPR issues in international trade negotiations, including in the TRIPS Council. On the other hand, the IPR score is not correlated with overall FDI flows (IPRI 2010, p 45), though more detailed

[120] IPRI 2010 Report, page 43, available at http://www.internationalpropertyrightsindex.org/

research has demonstrated correlations with FDI flows in IPR-intensive industries[121]. Rapid growth of the emerging market economies will gradually bring them closer to EU interests in their IPR policies, including in enforcement. The economic history of several East Asian countries (Taiwan, Korea, and Japan) over the last couple of decades illustrates that argument.

Weak IPR scores are not only a risk for EU exports they also represent a risk of IPR violations in EU imports from these countries. That is illustrated in Figure 16 which gives a picture of the provenance [122]of goods detained by EU Customs and suspected to infringe IPR at the EU border. China remains by far the most important provenance of goods suspected of infringing an IP right. It accounts for almost two thirds of all detained goods. Figure 17 shows that trademark violations account for over 90% of counterfeited goods seized by customs. The graph does not include statistics on copyrights violations in digital media that are traded over the internet. The patent violations recorded in Figure 17 may only be the top of the iceberg of this type of IPR infringement; most of them are invisibly embodied in goods.

Small and medium sized enterprises (SMEs) also have a potential role to play with respect to European innovation and competitiveness. In 2006, SMEs accounted for 99.8% of all EU enterprises, 67% of employment and 58% of value added. Moreover, between 2004 and 2006 the number of employees, value added and labour productivity all grew faster in SMEs than in large firms.[123]

Whereas SMEs do not innovate as much, on average, as large firms, there is a clear link between internationalisation and innovation among SMEs. 26% of internationally active European SMEs introduced products or services that were new for their sector in their country, compared to only 8% for other SMEs.[124] One quarter of EU SMEs export or have exported within the last 3 years, and 29% have imported. The majority of this trade is with other EU Member States, with 14% of European SMEs importing from markets outside the EU and 13% exporting to countries outside the EU.

Being an importer seems to open doors to exporting. Twice as many SMEs that are engaged in both importing and exporting started by importing.[125] SMEs become more competitive by importing due to cheaper inputs and acquiring knowledge, but also due to the fact that enterprises learn how to engage in international trade. Participation in global value chains contributes positively to the efficiency and innovative potential of SMEs.[126] This is particularly true in knowledge-intensive sectors, where cutting-edge suppliers are often not available locally and strategic alliances are crucial both to launching new products and to exploring new markets. However, SMEs often lack information not only about opportunities, but also about the necessary steps and procedures to enter into a formal agreement with a foreign partner. Furthermore, it is important that public support programmes should focus on imports as well as on exports.

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[121] Branstetter et.al. (2004) "Do Stronger Intellectual Property Rights Increase International Technology Transfer? Empirical Evidence from U.S. Firm-Level Panel Data", World Bank Policy Research Working Paper No. 3305.

[122] The country of provenance is the country from which the goods are shipped to the EU whereas the country of origin is in principle the country where the goods are produced

[123] Eurostat, *Statistics in Focus 71*, 2009. Numbers are excl. financial business

[124] European Commission, DG Enterprise, *Internationalisation of European SMEs*, 2010.

[125] This covers 33 European countries (EU27, Croatia, Iceland, Liechtenstein, FYROM, Norway and Turkey) and covers both intra- and extra-EU trade.

[126] OECD (2010) "SMEs, Entrepreneurship and Innovation" and OECD (2008) "Enhancing the Role of SMEs in Global Value Chains", Paris.

Trade policy instruments to improve EU performance in innovative sectors

While the stimulation of innovation and R&D is clearly a domestic policy issue, the facilitation of trade and investment in innovative products, and the protection of these innovations in an international trade context, is within the remit of trade policy. As part of the EU2020 policy platform, the "Innovation Union" flagship policy is the main supporting policy instrument for generating more innovation and comparative advantage in R&D intensive goods. This includes the goal of establishing a unitary EU-wide patent. A single EU patent, including a *Unified Patent Litigation System*, would strengthen the EU's position as a patenting area in the global economy.

The most important innovation policy instrument from a trade perspective is the protection of IPR. At multilateral level, basic IPR rights and standards to which WTO member have to adhere are defined in the Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement. Moreover, a series of international agreements and conventions lay down specific standards for IPR protection. Bilateral trade agreements can include more specific provisions, as is the case with most EU FTAs, including encouraging the partner country to sign up to international IPR conventions and standards.

In the case of access to medicines, the TRIPS Agreement provides for "flexibilities" in order to strike a more acceptable balance between the social importance of affordable access to medicines, the rights of IPR holders and the corresponding incentives for further research that those rights create. Some developing countries have tried to launch a similar debate on IPR in climate change technologies. Here, the Commission has shown that there is no need to relax these IPR as they do not constitute a bottleneck in the spread of these technologies[127].

The Anti-Counterfeiting Trade Agreement (ACTA) is a proposed plurilateral agreement establishing international standards on intellectual property rights enforcement. ACTA seek to establish a new international legal framework that countries can join on a voluntary basis. ACTA negotiations are on-going between the EU, US, Japan, Switzerland, Australia, New Zealand, Mexico, Morroco, Singapore, Canada and Korea. Besides this legal framework, an operational *Strategy for the Enforcement of Intellectual Property Rights in third Countries*[128] was put in place in 2004 to reduce significantly the level of IPR violations in third countries by means of enhanced cooperation with rights holders and raising awareness in target countries. This Strategy is now under evaluation and will be revised in function of the evaluation findings and of the results of an on-going survey on enforcement practices by trading partners.

The EU has also used trade policy instruments to favour trade in products that embody specific advanced technologies. The EU is a member of the International Technology Agreement (ITA), a plurilateral agreement that eliminates tariffs on trade in ICT products. The ITA has contributed to a very substantial growth in trade in ICT products. The competitiveness of EU trade in ICT products is demonstrated by significant price differences between EU exports and other ITA member country exports of these products, which provide an indication of the superior quality of EU ICT products.

IPR protection is important not just for "new" products but also for traditional products. Geographical Indications (GIs) are intellectual property rights that confer a right to use a distinctive sign to identify a product that comes from a specific region and has a given quality

[127] Copenhagen Economics (2009) "Are IPR a barrier to access to climate change technologies? ", study for the European Commission (DG TRADE) available at http://ec.europa.eu/trade/analysis/chief-economist/.

[128] See http://eur-lex.europa.eu/LexUriServ/site/en/oj/2005/c_129/c_12920050526en00030016.pdf

essentially attributable to its geographical origin. GIs convey region-specific quality characteristics and production methods that are valued by consumers, while allowing continuous investment in innovation and quality improvements.[129] This specific quality is usually reflected in significant price premia for GI producers.[130] Products benefiting from GIs are traded worldwide, such as wines and spirits, which dominate the total value of EU GIs exports but available trade statistics on GIs are limited. For many GIs, especially those produced by SMEs, the domestic market still accounts for a large share of sales. The main EU GI exports are wines and spirits. Diary products make up a smaller share. Over the last decade exports of GI cheeses have recorded strong growth rates but nevertheless below the growth rate of total EU exports. However, these GI exports figures may be underestimates, given the large number of protected GIs that are not captured by the current trade statistics. Enhanced GI protection is not the only factor influencing export performance. Some countries offer other forms of protection of GIs, for instance through trade marks. The success of GI products depends crucially on consumer choices and resources devoted to marketing, advertising and branding. Much also depends on local market demand, the availability of (legal or counterfeit) substitute products, and the structure of trade barriers. In some markets, EU GI exports are also hampered by high traditional trade barriers, as well as GI infringements.[131]

Another area where the EU favours positive discrimination of innovative products is in environmental goods and services. The elimination of tariffs on environmental goods is part of the DDA negotiations. Trade policy may occasionally be used to discriminate against some technologies, when they are perceived as national security risks – for example export controls on dual use goods. Domestic regulation has an important role to play in the promotion and discrimination of technologies – for example regulation that limits the use of GMO products in the food chain. In new and rapidly changing technology areas, such as energy efficiency standards, green technologies, nano technology products, etc., the early adoption of appropriate regulation may facilitate its introduction on domestic and global markets.

[129] Felix Addor and Alexandra Grazioli, "Geographical Indications beyond Wines and Spirits: A Roadmap for a Better Protection for Geographical Indications in the WTO TRIPS Agreement", *Journal of World Intellectual Property*, vol.5, no 6., November 2002, Geneva, pp. 865-897.

[130] The price premium granted by the "Champagne" GI, for instance, is considerable: despite large variations in the price of champagne across countries, the world average unit price of Champagne could several times higher than for sparkling wines.

[131] For instance, in 2008 EU wines face tariffs over 20% in more than 40 trading partners.

5) RULES ON COMPETITION AND SUBSIDIES

Rules on competition and subsidies form part of the regulatory framework of the markets in which EU businesses operate. Absent or ineffective competition and state aid rules in third countries can limit market access for EU exporters as they raise new barriers with the same effects as conventional tariff or non-tariff barriers. The EU therefore has a strategic interest in developing international rules and cooperation on competition policy to ensure that European firms do not suffer in third countries from distortive subsidisation of local companies or anti-competitive practices.

At the same time, effective rules on competition and subsidies are also in the interest of the EU's partners as they enhance economic welfare and growth. Ineffective competition not only harms consumers and purchasers of intermediate products, but in the long-run, it also undermines domestic industry's ability to compete with more nimble foreign rivals. Likewise, trade-distortive subsidies divert resources from other stakeholders and thus diminish their competitiveness. There is thus a clear mutual interest for trading partners to agree on binding rules in this area. Independently of trade negotiations, an increasing number of emerging economies (including China) have adopted competition laws in recent years.

A multilateral set of rules adopted in the WTO framework would clearly be the first-best outcome as many competition and subsidy rules are by their nature non-discriminatory and thus raise free-rider problems. Although the WTO's Agreement on Subsidies and Countervailing Measures (ASCM) prohibits certain types of subsidies, the low number of cases (compared to antidumping cases) suggests that its scope and the applicable burden of proof are relatively restrictive.

Meanwhile, many key issues can also be addressed through FTAs. The Global Europe Communication therefore called for stronger provisions for competition in FTAs.

Following Global Europe, the Commission has consistently included chapters on competition policy and subsidies in its FTA negotiations. On competition policy, it was agreed in the FTAs with Korea, Central America, Colombia and Peru (and to some extent the Cariforum EPA) to maintain effective competition laws and an appropriately equipped competition authority responsible for addressing anti-competitive practices, such as cartels, abusive behaviour by companies with a dominant market position and mergers. The FTA partners have recognised the importance of respecting the principles of due process in applying these competition laws. Furthermore, provisions laying down the main principles for consultation and cooperation were agreed.

In the subsidies field, the level of ambition has varied more significantly between individual negotiations, ranging from enhanced transparency to (in the FTAs with Korea, Colombia, Peru, Central America) to substantive rules (in the case of Korea). Possible explanations for the more difficult negotiating environment in the subsidies field include trading partners' domestic policy context (lobbying power of subsidy recipients) as well as free rider issues (-it may be particularly effective to grant subsidies if trading partners refrain from doing so).

Hence, while some important aspects of competition and subsidy rules have been addressed by the EU's bilateral FTA negotiations, a multilateral (or plurilateral) approach would hold advantages especially in areas where rules are by definition non-discriminatory.