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EU15 trade with emerging economies and rentier states: leveraging geography

Guillaume Gaulier, Françoise Lemoine & Deniz Ünal

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EU15 TRADE WITH EMERGING ECONOMIES AND RENTIER STATES: LEVERAGING GEOGRAPHY

NON-TECHNICAL SUMMARY

During the past ten years, the volume of international trade has grown by an annual average of more than 6%, twice as fast as the global production. This trend has been accompanied by a reshuffling of international trade in favour of new players. Several developing economies have emerged as the most dynamic exporters of manufactured goods, services and commodities and have eroded the dominant position of the developed countries in world markets. They have also been expanding markets and partners of the developed economies in the international division of labour. The paper investigates how the EU15, the first global trade power, has coped with this new context.

The first section proposes a definition of the new players which distinguishes two subsets: *emerging economies* are those which have substantially increased their share in world exports of manufactured goods or services; *rentier states* are those which have strengthened their position in world markets thanks to their exports of fuels and raw materials. This classification relies on the CEPII databases (CHELEM-GDP-INT-BOP). Taking stock of the heterogeneity of these new players, the paper analyses the reshuffle of international trade and points out the positions of the winners and the losers. This brings to the fore that the EU15 has lost less ground in world exports than the other two big trade powers (the US and Japan), during the period 1995-2007. One of the reasons of this resilience was that the EU15 took advantage of its strong position in the markets of emerging economies and rentier states, and managed to achieve a relatively good performance in these dynamic markets.

The second section provides an in-depth analysis of the EU15 trade with emerging economies and rentier states from 1997 to 2007, making use of an original database drawn from Eurostat Comext. The key findings can be summarised as follows.

The primordial observation is that the EU15 trade profiles differ with neighbours and with distant partners. The EU15 took advantage of its geographic location and was most successful in enhancing its exports to emerging and rentier countries located in Europe & Periphery. The EU enlargement and neighbourhood policies have strengthened the effects of geography and have opened up new dynamic markets near at end (new member states and Mediterranean countries). The rentier states in the EU periphery have become major markets for the European exporters since the early 2000s. By contrast, the EU15 trade with emerging Asia shows a relatively moderate increase in exports, a fast rise in imports, and a ballooning trade deficit, which was partially compensated by the trade surplus with emerging neighbours. Trade with neighbours thus cushioned some of the consequences of rise of Asian producers.

Outstanding changes have taken place in the EU15 trade with emerging Europe & Periphery. They reflect the productive links which have been building up in industrial sectors and especially in the car industry which was the key driver of trade restructuring. The result of this productive integration was a rapid technology and quality/price upgrading of the EU15 imports from its neighbours, bearing out their catch up process.

The EU15 trade with emerging Asia exhibits a quite different pattern. The most dynamic sector in two way trade was electronics. As a result of the far-reaching reorganisation of Asian industry among matured and emerging economies, the latter have enhanced their position as suppliers of high-technology at low cost. The EU15 export performance in these markets shows that the comparative advantage of a high-cost producer in its trade with low-income countries lies mainly in high-technology and high-quality products.

The global economic crisis has hit all emerging countries since 2008 but the worst hit were the economies which were the EU15 most dynamic markets in the past ten years: rentier states and emerging economies in Europe and its periphery. The productive integration underlying the EU15 trade with its emerging neighbours has created a well-built interdependence which will make it difficult to get out of the downturn without cooperation. In emerging Asia, China and India have been more resilient to the global crisis and will provide the EU15 exporters promising markets especially for the high-technology and the up-market segments of their supply. As amply shown in the paper, the two emerging regions are heterogeneous and should be seen as complementary and not as alternative partners for European firms.

ABSTRACT

During the past ten years, the *emerging economies*, exporters of manufactured products or services, and the *rentier states*, exporters of primary products, have eroded the dominant position of the developed countries in world markets. The EU15 has lost less ground than the US or Japan. The EU15 has taken advantage of its geographical location to enhance its exports to the emerging and rentier countries located in Europe & Periphery. Regional integration has also favoured the upgrading of the EU15 imports from its emerging neighbours. The EU15 trade with emerging markets in Asia have strengthened the latter's specialisation in high-technology products at low price, and the EU15 specialisation in high-technology and high-quality products.

JEL Classification: F1; F14; F5

Key Words: Trade; emerging economies; rentier states; European Union; export prices

LE COMMERCE DE L'UNION EUROPÉENNE AVEC LES PAYS ÉMERGENTS ET RENTIERS : LA GÉOGRAPHIE À L'APPUI

RÉSUMÉ NON TECHNIQUE

Au cours des dix dernières années, le commerce international a crû, en volume, de plus de 6% par an, deux fois plus vite que la production globale. Cette évolution a été accompagnée d'une redistribution des flux commerciaux au profit de nouveaux acteurs. Plusieurs pays en développement sont devenus les exportateurs les plus dynamiques de produits manufacturés, de services et de produits primaires, et ont érodé la position dominante des pays développés sur le marché mondial. Ils ont aussi été des marchés en rapide expansion et des partenaires dans la division internationale du travail. Cette étude analyse comment l'UE15, première puissance commerciale, a fait face à ce nouveau contexte.

La première partie propose d'abord une définition des nouveaux acteurs qui distingue deux catégories : les *économies émergentes* sont celles qui ont renforcé substantiellement leur poids dans les exportations mondiales de produits manufacturés ou de services ; les *pays rentiers* sont ceux qui ont renforcé leur poids sur le marché mondial grâce à leurs exportations de produits primaires. L'analyse utilise les bases de données du CEPII (CHELEM-PIB-CIN-BAL). En prenant en compte l'hétérogénéité de ces nouveaux acteurs, ce document analyse la redistribution des échanges internationaux et présente les positions des gagnants et des perdants. Cette analyse montre que pendant la période 1995-2007, l'Union européenne a perdu moins de terrain que les États-Unis ou le Japon dans les exportations mondiales. Une des raisons de cette résilience est que l'UE15 a tiré parti de sa bonne position sur les marchés des pays émergents et des rentiers et a réalisé d'assez bonnes performances sur ces marchés dynamiques.

La deuxième partie fournit une analyse approfondie du commerce de l'UE15 avec les économies émergentes et les rentiers de 1997 à 2007. L'analyse repose sur une base de données originale tirée des statistiques d'Eurostat Comext. Les principaux résultats de l'analyse sont les suivants.

Le constat primordial est que le profil d'échange de l'UE diffère selon la proximité géographique des partenaires. L'UE15 a tiré parti de sa localisation géographique et réussi ses meilleures performances à l'exportation vers les pays émergents et rentiers localisés en Europe ou dans sa périphérie. Les politiques d'élargissement et de voisinage de l'UE ont renforcé les effets de la géographie et ouvert aux entreprises européennes de nouveaux marchés dynamiques à proximité (nouveaux pays membres et pays méditerranéens). Les rentiers proches sont devenus des marchés d'une importance majeure pour les exportateurs européens depuis le début des années 2000.

Au contraire, le commerce de l'UE15 avec l'Asie émergente est marqué par la croissance relativement modeste de ses exportations et une envolée de ses importations. Le gonflement de son déficit commercial avec ces émergents lointains est partiellement compensé par son excédent avec les émergents voisins : le commerce de l'UE15 avec les pays émergents d'Europe et de sa périphérie a ainsi amorti certains des effets de la montée des émergents d'Asie.

D'importants changements structurels ont eu lieu dans le commerce de l'UE15 avec les émergents d'Europe et de sa périphérie. Ils reflètent l'intégration des appareils de production industriels, notamment dans l'industrie automobile qui a été l'un des moteurs de la restructuration des échanges. Cette intégration a entraîné une amélioration rapide du contenu technologique des importations de l'UE15 en provenance de ses voisins et leur montée en gamme de qualité/prix, témoignant du processus de convergence.

Le commerce de l'UE15 avec l'Asie est tout autre. L'électronique a été secteur le plus dynamique du commerce. Suite à la vaste réorganisation des productions industrielles en Asie entre les économies avancées et les économies émergentes, ces dernières ont renforcé leur position de fournisseurs de produits de haute technologie à bas prix. Dans leurs échanges avec ces pays à bas revenus, les avantages comparatifs des producteurs européens à coûts élevés résident principalement dans les produits de haute technologie et de haut de gamme.

La crise économique mondiale a touché toutes les économies émergentes en 2008, mais les plus affectées ont été les pays qui ont été les marchés les plus dynamiques de l'UE15 ces dix dernières années : les pays rentiers et les émergents d'Europe et de sa périphérie. L'intégration productive qui sous-tend le commerce de l'Europe avec ses voisins émergents révèle que la sortie de la crise ne sera pas possible sans une coopération mutuelle. En Asie, la Chine et l'Inde ont mieux résisté à la crise mondiale et fourniront aux exportateurs de l'UE15 des marchés attractifs surtout pour leur offre située dans les segments high-tech et haut de gamme. Les économies émergentes forment une catégorie de pays très hétérogène. Les échanges de L'Union européenne se développent avec eux sur des modes différents qui en font des partenaires complémentaires et non alternatifs.

RÉSUMÉ COURT

Au cours des dix dernières années, les économies émergentes, exportatrices de produits manufacturés ou de services, et les pays rentiers, exportateurs de produits primaires, ont érodé la position dominante des pays développés sur le marché mondial. L'UE15 a moins reculé que les États-Unis ou le Japon. L'UE15 a tiré parti de sa localisation géographique pour promouvoir ses exportations vers les émergents et rentiers localisés en Europe et à sa périphérie. L'intégration régionale a favorisé la montée en gamme de l'offre de ces émergents proches. Les échanges avec l'Asie émergente témoignent d'un renforcement de la spécialisation de celle-ci dans les produits high-tech à bas prix et de celle de l'UE15 dans les produits de haute technologie et de haut de gamme.

Classification JEL : F1; F14; F5

Mots-clefs : Commerce ; économies émergentes ; pays rentier ; Union européenne ; prix à l'exportation

EU15 TRADE WITH EMERGING ECONOMIES AND RENTIER STATES: LEVERAGING GEOGRAPHY

Guillaume Gaulier, Françoise Lemoine & Deniz Ünal*

INTRODUCTION

From 1995 to 2007, the volume of international trade grew by an annual average of more than 6%, twice as much as global production and this was accompanied by a large reshuffling of trade flows. The dominant position of advanced economies (the EU15, US and Japan) in international trade has been significantly eroded by the rise of new players. Recent research works underline that Europe resisted better than the two other major trade powers to this redistribution of world market shares, and put forwards the reasons for such a resilience [Curran & Zignago, 2009; Denis *et alii*, 2006; European Commission, 2008; Fontagné *et alii*, 2008; Havik & Mc Morrow, 2006]. One of them is that the EU15 is specialised in sectors and in quality ranges (high-price/high-quality goods) which have been less exposed to competition from emerging exporters.

The present study builds on these analysis and focuses on the EU15 trade with the new players from 1997 to 2007. The value added of this study is twofold. First, we delineate the group of new players and make a distinction between emerging economies and rentier states based on their different ways of integrating the world economy. Second, using an original database drawn from Eurostat Comext, we carry an in-depth analysis of trade of the EU15 with the different emerging areas and rentier country groups, which clearly shows that the economic and geographic distance is still an important determinant of trade between partners.

In a first section, the paper makes out who are the “new players” in international trade and proposes a classification which distinguishes “emerging economies” *i.e.* the successful exporters of manufacturing goods or services from “rentier states” which export principally primary products. The changes in the respective positions in international trade of the three major groupings (rich countries, emerging economies and rentier states) and within them are then analysed.

The second section focuses on the EU15 trade with emerging countries and rentier states. The paper examines what has driven the EU15 trade performance over the period 1995-2007. The

* Guillaume Gaulier is economist at the Banque de France and Research Associate at CEPII, Françoise Lemoine (corresponding author, francoise.lemoine@cepii.fr) is economist senior at CEPII, Deniz Ünal is economist at CEPII. The usual disclaimer applies.

analysis first gives ground to the distinction between emerging economies and rentier states, showing their different trade profiles with the EU15. Then, within the emerging country group, two sub-sets are distinguished, which display contrasted profiles of trade with the EU15: the countries in Europe and its periphery (East European and Mediterranean countries) and the Asian economies.

1. THE RESHUFFLE OF INTERNATIONAL TRADE IN GOODS AND SERVICES

1.1. Emerging economies and rentier states

1.1.1. *Who are the “emerging economies”?*

“Emerging economies” have become a hot topic in recent economic literature, media, and business circles. Reports, essays and articles emphasise the importance of this turning point in the world economy, but they do not provide a clear-cut definition of this category of new players.

The term “emerging economies” corresponds to various and often blurred groupings (see **Box 1.1**, and for a discussion of this question see Gabas & Losch, 2008). Sometimes it is used to point out the four “BRICs” (Brazil, Russia, India and China) or a group of “fast growing economies”, and sometimes it refers to all developing countries. To make things more confusing, the category of “developing economies” itself corresponds to various groupings. The World Bank [World Bank, 2007b] sets a threshold of income per capita (11 100 current US dollars in 2006) to distinguish rich countries from others but according to UNCTAD classification [UNCTAD, 2007], for instance, the group “developing countries” includes economies which are above this threshold: the Asian new industrialised economies (Taiwan, Hongkong, Singapore and South-Korea) which have already emerged and the oil exporting countries which have now an income per capita above the threshold.

The dividing line between emerging and non-emerging economies is quite imprecise and emerging countries present characteristics which widely differ from one country to another. The term of “emerging economies”, as vague as it is, implies not only a rapid growth of GDP per capita or an increasing presence in world markets, but also entails several important ingredients of political economy. Analysing this concept, Sgard (2008) puts forwards the key factors which have been at the source of the success of emerging economies since the 1990s, ensuring them a more stable and high growth. These countries have pursued a process of economic liberalisation, have promoted market orientation and have opened up to international flows of goods, services and capital and this process has been associated with the building up of institutions and the search for strong State regulation. This model of “emerging economies”, which aimed at combining private interests and market economy with a strong public policy, profoundly differs from that of countries which can be considered as “rentier states” as their economic rise is based mainly on exports of natural resources.

Box 1.1. - From developing countries to emerging economies

Institution/publication	Wording	Coverage
World Bank, 2007b (<i>WDI</i>)	Developing countries	Countries with GDP per capita below \$11 100 in 2006
World Bank, 2007a (<i>Global Economic Prospects</i> , 2007)	Emerging economies	“China, India and Other”
UNCTAD 2007 (<i>World Investment Report</i> , 2007)	Developing & transition economies	All countries excluding EU27 and other Western Europe, North America and other developed
IMF, 2007 (<i>World Economic Outlook</i> , 2007)	Other emerging markets and developing countries	Countries outside the group of advanced economies (G7 and Euro area, Asian NIEs, ANZ)
Ernst & Young, 2008	Emerging countries	Argentina, Brazil, China, India, Mexico, Russia, Saudi Arabia, South Korea
Boston Consulting Group, 2008	Fast growing economies	Argentina, Brazil, Chile, China, Egypt, Hungary, India, Indonesia, Malaysia, Mexico, Poland, Russia, Thailand, Turkey
Goldman Sachs, 2005	BRICs + the next eleven “large developing economies”	Bangladesh, Brazil, China, Egypt, India, Indonesia, Iran, Mexico, Nigeria, Pakistan, Philippines, Russia, Turkey, Vietnam
Price Waterhouse Coopers (Hawksworth & Cookson), 2008	BRICs + 16 other emerging markets	Argentina, Bangladesh, Brazil, China, Egypt, India, Indonesia, Iran, Malaysia, Mexico, Nigeria, Pakistan, Philippines, Poland, Russia, Saudi Arabia, South Africa, Thailand, Turkey, Vietnam

This distinction between emerging economies and rentier states makes sense when analysing international trade since their integration into the world economy follows different patterns. For developed countries, both emerging economies and rentier states offer new opportunities for exports and investment; at the same time, emerging economies may be a source of increased competition challenging the position of developed countries in the world trade of manufactured goods and services; they are also their partners in the new forms of division of labour.

1.1.2. A proposed classification

This paper proposes a classification of countries into four categories, based on two criteria: the level of income per capita and the export performance¹, drawn from the CEPII databases (CHELEM-GDP-CIN-BAL). The classification is as follows:

Rich economies are countries which have an income per capita above the World Bank threshold in 2006 and which are not rentier states see below².

Emerging economies are the countries which 1) have a level of income below the threshold set by the World bank (11 100 US current dollars in 2006), *i.e.* are outside the rich country club and 2) have been able to increase their share in world markets of manufactured goods³ or services by at least 0.05 percent point between 1995 and 2005. This criterion, which corresponds to a substantial increase, is meant to select the countries which have been able to integrate successfully into the world economy and which play a significant part in international trade; excluding dynamic but very small exporters makes sense in a study focused on the changes in international trade pattern. According to these criteria, there are 25 emerging economies located in different regions: twelve in Europe and its periphery⁴, seven in Asia, five in America and one in Africa (see the list in **Box 1.2**).

Rentier states are countries which enlarged their share in world exports of primary goods (by more than 0.05 percentage point between 1995 and 2005) and which have more than 40% of their exports made of primary products (see the list in **Box 1.2**). This group includes countries irrespectively of their level of income. In fact many rentier states have a level of income per capita comparable to that of rich countries. Among the 23 rentier states, fourteen are located in the Middle East and sub-Saharan Africa; seven in the area "Europe and its periphery", among which Russia and several countries which are part of the Commonwealth of Independent States (CIS); one in America; and, one in Asia.

The rest of the world (*Other countries*) encompasses economies which are not rich, neither emerging nor rentier states.

¹ A similar methodology was used by the CEPII (1998).

² According this criteria the group of rich countries includes EU15 member states, Andorra, Cyprus, Czech Republic, Hungary, Iceland, Israel, Liechtenstein, Malta, Slovenia and Switzerland in Europe & Periphery; Bahrain in the Middle-East; Canada and United-States in America; Australia, Brunei, Hongkong, Japan, South Korea, Macao, New Zealand, Singapore and Taiwan in Asia and Oceania.

³ Manufactured goods here encompass industrial goods and manufactured food products

⁴ It must be noted, that according to this classification, among the 10 new EU members, three are in the rich country group (the Czech Republic, Hungary, Slovenia); six are in the group of emerging economies (see **Box 1.2**); Latvia is in the other country group.

Box 1.2. - Emerging economies and rentier states (1995-2006) (for criteria, see the text)

EMERGING (25)	RENTIER STATES (23)
Europe & Periphery	Europe & Periphery
Belarus	Algeria
Bulgaria	Azerbaijan
Croatia	Kazakstan
Estonia	Libya
Lebanon	Norway,
Lithuania	Russia
Morocco	Turkmenistan
Poland	Middle-East & Sub Saharan Africa
Romania	Angola
Slovakia	Chad
Turkey	Congo
Ukraine	Equatorial Guinea
Sub Saharan Africa	Iran
South Africa	Iraq
America	Kuwait
Brazil	Nigeria
Chile	Oman
Costa Rica	Qatar
Mexico	Saudi Arabia
Peru	Sudan
Asia	United Arab emirates
China	Yemen
India	America
Indonesia	Venezuela
Pakistan	Asia
Philippines	Myanmar
Thailand	
Vietnam	

It must be underlined that, given the criteria used, the category of “emerging economies” is based only on trade performance. The rate of economic growth is not taken into account, in spite of its crucial importance, because the focus of the analysis is on international trade rather than growth. The category of “emerging economies” as well as the definition of rentier states proposed here are relatively narrow compared to many other classifications. Moreover this classification is an evolving one and may change over time.

1.1.3. The new players in the world economy: an uneven catch-up process

The rich country group retains a dominant position in the world economy. In 2007, with only 15% of the world population, it produced 72% of world GDP in current dollars (**Table 1.1**). By contrast emerging economies with 57% of the world population accounted still for only 19% of world GDP. Taken together, emerging economies and rentier states accounted in 2007 for one fourth of world GDP.

The rich country group is well ahead in terms of relative income per capita, with, on average, \$35 000 (PPP 2005) against \$8 500 for rentier countries, \$4 800 for emerging economies and \$2 800 for the rest of the world. The group of emerging economies is catching up slowly, and in 2007, its average income per capita (PPP) was still only 14% of the average income of rich countries. The group of rentier states had an average level of income per capita which is one fourth of that of rich country group, while the rest of the world is by far the poorest group.

Table 1.1. - Population and GDP, in 2007

	Population 2007 (% world)	GDP per capita 2007 (in 2005 PPPs US\$)	GDP in current US\$)	
			2007 (% world)	1995-2007 change (in point of %)
WORLD	100.0	9 372	100.0	0.0
RICH	15.0	34 829	71.5	-9.8
EU15	5.8	31 804	28.7	-1.1
United States	4.5	43 032	25.1	+0.3
Japan	1.9	31 768	8.0	-9.7
EMERGING	56.6	4 883	18.5	+6.5
Europe & Periphery*	3.8	10 112	3.2	+1.3
Sub Saharan Africa	0.7	9 043	0.5	+0.0
America	5.3	10 220	4.8	+0.7
Brazil	2.9	8 926	2.4	-0.2
Mexico	1.6	12 845	1.9	+0.8
Asia	46.8	3 788	10.0	+4.6
China	19.9	5 039	6.0	+3.5
India	17.0	2 584	2.1	+0.9
RENTIER	9.8	8 485	6.8	+3.3
Europe & Periphery	3.2	12 935	3.7	+1.8
Russia	2.1	13 940	2.4	+1.3
S.S. Africa & M. East	5.5	6 445	2.6	+1.3
America	0.4	12 124	0.4	+0.2
Asia	0.7	2 059	0.0	+0.0
OTHER	18.5	2 880	3.2	+0.0
Europe & Periphery	2.9	4 516	0.7	+0.2
S.S. Africa & M. East	8.0	1 058	0.5	+0.1
America	2.9	7 047	1.4	-0.3
Asia	4.7	2 434	0.6	+0.0
Triad	12.3	35 944	61.8	-10.6
BRICM	43.7	5 069	14.7	+6.4

Note: European periphery includes Commonwealth of Independent States (CIS) and Mediterranean countries. Triad includes EU15, USA and Japan. BRICM includes Brazil, Russia, India, China and Mexico.

Source: Authors' calculations from CEPII, CHELEM-GDP database.

Between 1995 and 2007 the real GDP per capita of the emerging country group increased by 4.7% a year on average, against 2.1% in rich countries (**Table 1.2**). Asia, due to its demographic size, has a dominant weight and accounted for most of the gain achieved by the group from 1995 to 2007. The convergence process differs between emerging Asia and emerging Europe & Periphery. In the former region, the rapid growth of GDP per capita is obtained through very high economic growth rates while in the latter it is helped by the quasi stagnation of the population. It is worth underlining that the level of income in emerging Europe is almost three times higher than in emerging Asia, a gap which can be expected to have far-reaching consequences on the structure of their trade with the EU15. Emerging economies in America are not on a converging path, with a relatively rapid increase of their population and a below world average economic growth.

Table 1.2. - Growth rate of population and real GDP* from 1995 to 2007
(annual average, %)

	Population	GDP	GDP per capita
WORLD	1.3	3.8	2.5
RICH	0.6	2.7	2.1
EU15	0.3	2.4	2.1
United States	1.0	3.1	2.0
Japan	0.1	1.3	1.2
EMERGING	1.2	5.9	4.7
Europe & Periphery	0.4	4.3	3.9
Sub Saharan Africa	1.1	3.6	2.4
America	1.4	3.3	1.9
Brazil	1.4	2.7	1.3
Mexico	1.3	3.7	2.4
Asia	1.3	7.5	6.2
China	0.7	9.5	8.8
India	1.7	6.9	5.0
RENTIER	1.3	4.7	3.3
Europe & Periphery	0.0	4.5	4.4
Russia	-0.4	4.5	4.9
S.S. Africa & M. East	2.2	5.1	2.8
America	1.6	2.9	1.3
Asia	1.1	10.1	8.9
OTHER	2.1	4.2	2.0
Europe & Periphery	1.5	4.9	3.3
S.S. Africa & M. East	2.7	4.2	1.4
America	1.6	3.5	1.9
Asia	1.8	4.6	2.8
Triad	0.5	2.5	2.0
BRICM	1.1	6.5	5.4

*In 2005 PPPs international US\$ and 2005 prices.

See note **Table 1.1**

Source: Authors' calculations from CEPII, CHELEM-GDP database.

The balance of economic power between the rich country group and the emerging one, in terms of output and income, is changing relatively slowly. Trends in international trade have shown more rapid changes, as shown in **section 1.2**.

1.1.4. The large emerging economies

In the group of emerging economies there are four “large emerging economies” (LEEs) defined as those accounting for more than 1% of world GDP (in current dollars): China, India, Brazil and Mexico (South Africa is an emerging economy but accounts for less than 1% of world GDP). Among rentier states, Russia also accounts for 2.2% of world GDP. The five “BRIMCs” encompass almost half of the world population and account for 14% of world GDP (current dollars, see **Table 1.1**). Compared to the Triad, they are four times bigger in terms of population and smaller in terms of GDP (current dollars) in 2007. These new economic powers have actually a growing influence on the world economy but which still falls short of that of the Triad.

India and China differ from the two other large emerging economies in several ways: their huge population has enabled them to become big economic powers long before getting rich. They are by far the two poorest large emerging economies. China already stands in the category of countries with an “intermediate” level of income per capita, while India is still in the low-income category, according to the World Bank classification [World Bank, 2007b]. Since 1995, both India and China have outperformed the other large emerging economy growth and accounted for almost all the increase of the BRIMC share in world GDP. Mexico and Brazil recorded a pace of economic growth around world average, and Russia’s economic growth was somehow above world average before the crisis.

However, emerging countries other than the LEEs, and especially the small emerging economies in Europe, were able to increase their share in world trade.

1.2. The winners and the losers

There were more rapid changes in the distribution of international trade across the four groupings, and the rise of emerging and rentier states significantly eroded the position of the rich countries in the international trade of goods and services between 1995 and 2006. This section analyses the positions of the winners and the losers. It distinguished different geographic areas within the groups of emerging countries and rentier states, and three major trade powers among the rich countries: the EU15⁵, the USA and Japan (the Triad).

⁵ Unless otherwise indicated in this paper, the data concerning world trade and EU15 trade exclude intra-EU15 trade.

1.2.1. The rise of emerging economies and rentier states

In 2006, rich countries still held the largest share of the world trade in goods and services (Tables 1.3 and 1.4): 57% of exports and 64% of imports, but compared to 1995 they lost ground to the emerging economy group which strengthened its share in world exports (from 15% to 24%) and in world imports (from 16% to 21%). Rentier states also gained ground in world exports (from 8% to 12%), while their share in world imports remained almost stable (at about 7%). Taken together emerging economies and rentier states accounted for 36% of world exports, and for 28% of world imports in 2006, against 22% for both exports and imports in 1995.

Table 1.3. - World exports by country grouping and broad sector, 1995-2006
(in % of world trade in goods and services)

	2006				1995-2006 change (point of %)			
	Total	Primary	Manufact.	Services	Total	Primary	Manufact.	Services
WORLD	100.0	14.6	66.9	18.5	-0.0	3.7	-2.4	-1.2
RICH	56.8	2.6	40.9	13.3	-12.8	-0.6	-10.5	-1.7
EU15	19.6	0.4	14.5	4.6	-2.2	-0.1	-1.9	-0.2
United States	12.1	0.6	7.7	3.7	-4.5	-0.5	-3.1	-1.0
Japan	6.8	0.0	5.7	1.0	-4.2	0.0	-3.9	-0.4
EMERGING	24.4	2.3	18.8	3.3	9.2	0.5	8.1	0.6
Europe & Periphery	3.9	0.2	2.9	0.8	1.1	0.0	1.1	-0.0
Sub Saharan Africa	0.9	0.1	0.6	0.2	0.0	-0.0	-0.0	0.0
America	4.6	1.0	3.1	0.4	1.1	0.4	0.7	-0.0
Brazil	2.4	0.4	1.8	0.1	0.5	0.1	0.4	-0.1
Mexico	1.4	0.3	0.9	0.2	0.3	0.1	0.1	0.0
Asia	15.0	0.9	12.2	1.9	7.1	0.0	6.4	0.7
China	9.8	0.2	8.8	0.8	6.0	-0.0	5.7	0.4
India	1.8	0.1	1.0	0.7	1.0	0.0	0.4	0.5
RENTIER	11.5	7.7	3.0	0.8	3.9	3.7	0.1	0.1
Europe & Periphery	4.7	2.3	1.8	0.6	1.2	1.2	-0.0	0.1
Russia	2.9	1.3	1.3	0.3	0.8	0.7	0.0	0.0
S.S. Africa & M. East	6.1	4.9	1.0	0.2	2.4	2.2	0.2	0.0
America	0.7	0.5	0.1	0.0	0.2	0.3	-0.1	-0.0
OTHER	7.3	1.9	4.3	1.1	-0.3	0.1	-0.2	-0.3
Europe & Periphery	0.3	0.1	0.2	0.1	0.1	-0.0	0.1	0.0
S.S. Africa & M. East	1.8	0.9	0.5	0.5	0.3	0.3	-0.0	-0.0
America	1.8	0.5	1.0	0.3	-0.1	-0.0	0.1	-0.2
Asia	3.3	0.4	2.6	0.3	-0.5	-0.2	-0.3	-0.1
Triad	38.5	1.1	27.9	9.4	-10.9	-0.6	-8.8	-1.6
BRICM	20.3	2.6	15.4	2.4	8.5	1.0	6.8	0.7

See note Table 1.1.

Source: Authors' calculations from CEPII, CHELEM-INT-BOP databases.

The most outstanding changes took place in exports of *manufactured goods*, which accounted for 2/3 of total world trade in 2006. In fact, the rich country market share fell mainly because they lost ground in this dominant segment of world trade: their exports of manufactured goods dropped from 51% of total world trade in goods and services to 41%. They resisted much

better in services exports but this sector is three times less important in world trade (18.5% of world exports) than the manufactured products.

In *manufactured* products, emerging countries almost doubled their share of world exports and accounted for almost half that of rich countries in 2006 (against one fifth in 1995). The group of rentier states considerably raised its share in world primary exports (from 37% to 53%).

On the import side, the redistribution was more limited. Although the emerging country group's share in total world imports of manufactured goods increased, it remained far smaller than its share in exports (14.8% vs 18.8%) in 2006, which resulted in the rise of global imbalances.

Table 1.4. - World imports by country grouping and broad sector, 1995-2006
(in % of world trade in goods and services)

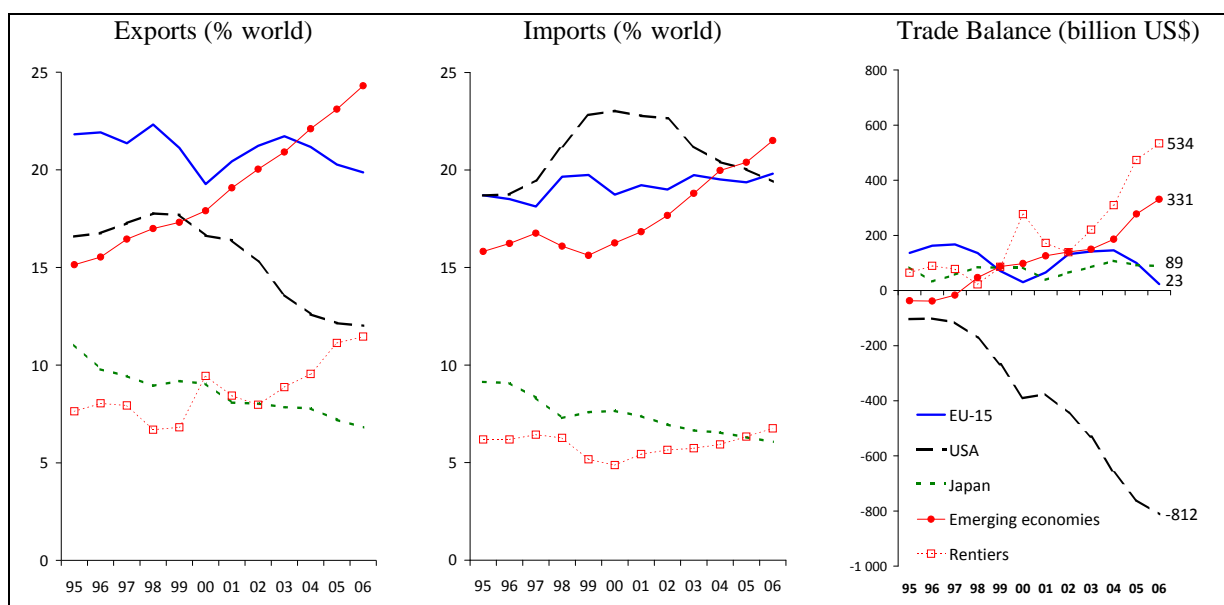
	2006				1995-2006 change (point of %)			
	Total	Primary	Manufact.	Services	Total	Primary	Manufact.	Services
WORLD	100.0	14.6	67.1	18.3	0.0	3.9	-1.3	-2.5
RICH	64.2	9.9	42.2	12.2	-3.8	2.3	-3.8	-2.3
EU15	19.9	3.4	12.1	4.4	0.9	0.7	0.7	-0.6
United States	19.4	2.7	13.6	3.1	0.8	1.1	-0.4	0.0
Japan	6.1	1.6	3.2	1.2	-3.0	-0.1	-1.6	-1.4
EMERGING	21.5	3.3	14.8	3.4	5.7	1.7	3.6	0.5
Europe & Periphery	5.1	0.7	3.8	0.6	2.0	0.1	1.7	0.1
Sub Saharan Africa	1.0	0.1	0.7	0.2	0.1	0.0	0.0	-0.0
America	3.7	0.3	2.8	0.6	0.2	0.1	0.2	-0.0
Brazil	2.1	0.1	1.7	0.2	0.5	0.0	0.5	-0.0
Mexico	1.1	0.1	0.7	0.3	-0.3	-0.0	-0.2	-0.0
Asia	11.8	2.1	7.5	2.1	3.5	1.5	1.6	0.4
China	6.5	1.2	4.4	0.9	3.3	0.9	2.0	0.4
India	2.0	0.5	0.9	0.6	1.0	0.4	0.3	0.3
RENTIER	6.7	0.4	4.9	1.4	0.6	0.0	0.8	-0.3
Europe & Periphery	3.1	0.2	2.1	0.8	0.2	-0.0	0.1	0.1
Russia	1.8	0.1	1.3	0.4	-0.0	-0.0	0.0	-0.0
S.S. Africa & M. East	3.3	0.2	2.5	0.5	0.4	0.1	0.6	-0.3
America	0.4	0.0	0.3	0.1	0.0	-0.0	0.1	-0.0
OTHER	7.5	1.0	5.3	1.3	-2.5	-0.1	-2.0	-0.4
Europe & Periphery	0.5	0.1	0.4	0.1	0.2	0.0	0.2	0.0
S.S. Africa & M. East	2.2	0.3	1.4	0.5	0.0	0.1	-0.0	-0.0
America	2.3	0.3	1.7	0.3	-0.3	0.1	-0.2	-0.2
Asia	2.6	0.3	1.8	0.5	-2.5	-0.4	-1.9	-0.2
Triad	45.3	7.7	28.9	8.7	-1.4	1.8	-1.3	-1.9
BRICM	15.6	2.4	10.5	2.8	3.9	1.4	2.0	0.5

See note **Table 1.1**.

Source: Authors' calculations from CEPII, CHELEM-INT-BOP databases.

However, **Figure 1.1** shows that rentier states have played an even larger role than emerging economies in the rise of global trade imbalances. Due to the upsurge in prices of primary products, their trade surplus has become 60% larger than the surplus of the emerging economies in 2006. The rich country group deficit in primary goods has enlarged and its surplus in manufactured goods has switched from a surplus to a deficit since the early 2000s, due mainly to the worsening trade balance of the US.

Figure 1.1. - The Triad, emerging economies, and rentier states in international trade of goods and services, from 1995 to 2006



Source: Authors' calculations from CEPII, CHELEM-INT-BOP databases.

1.2.2. Contrasted patterns of integration in international trade

The commercial size of emerging Asia dwarfs those of other emerging areas, in Europe and America. (see **Table 1.3**). From 1995 to 2006, the most important shock in the world supply of manufactured goods came from emerging Asia, which almost doubled its share in world exports (+6. percentage points to 12.2% in 2006). Exports of manufactured goods by emerging countries in Europe & Periphery increased only moderately (+1.1 percentage point to 2.9% of world trade).

By contrast, the largest increase in the international demand came from emerging countries in Europe & Periphery (see **Table 1.4**); their imports of manufactured goods as a share of world trade more than doubled (+1.7 percentage points to 3.8%). The second most important increase corresponded to manufactured imports by emerging Asia (+1.6 percentage point to 7.5%); then came the increase of manufactured imports by rentier states located in Sub-Saharan Africa and the Middle-East (+0.6 percentage point to 2.5%).

Emerging Europe & Periphery and emerging Asia thus displayed two contrasted patterns of integration in international trade.

Interestingly, from 1995 to 2006, the group of rich countries contributed more than the emerging country group to the increase in the world imports of primary goods.

The distribution of trade in services underwent more limited changes, as the rich country group succeeded in keeping its dominant position and resisted to the shift in favour of emerging economy group both.

1.2.3. The Triad lost ground, the EU15 less than the others

Among the group of rich countries, the three major trade powers lost ground in world trade, the US and Japan losing more than the EU15, which remained by far the biggest trade power (see **Figure 1.1**).

The EU15 share in world exports declined less than that of Japan and that of the US (they lost respectively 2.2, 4.2 and 4.5 percentage points in world exports). In 2006, the EU15 exports (19.6% of world trade) were equivalent to the combined exports of the US and Japan. In manufactured good exports, the US and Japan accounted for most of the loss recorded by rich countries; this was also the case in services trade (see **Table 1.3**).

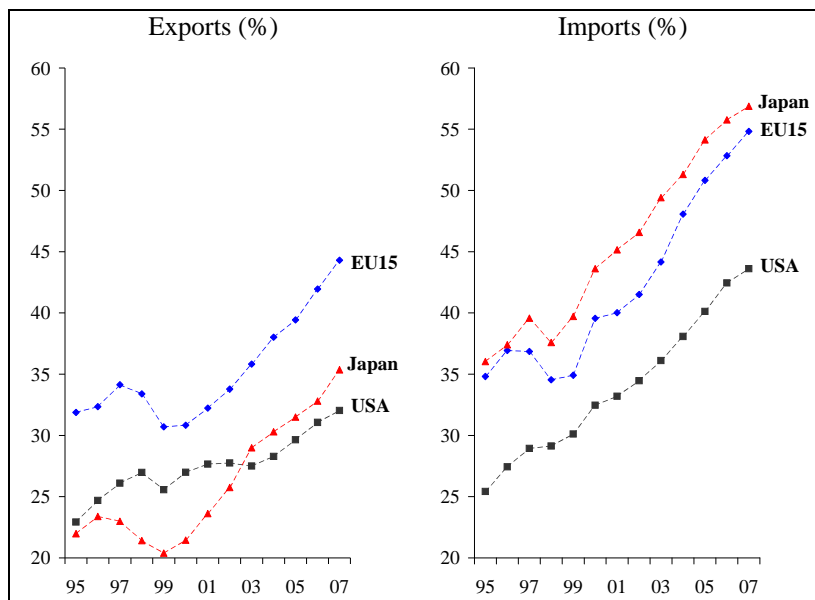
On the import side, the share of the EU15 and the US remained almost stable at about 20% each, but Japan's share dropped from 9.1% to 6.1%.

The analysis of the reasons which explain the differences in the overall trade performance of the "Big Three" is clearly beyond the scope of this paper, which will only emphasize that the strong position of the EU15 in the dynamic markets has contributed to its resilience in world markets.

The EU15 shows a relatively strong export orientation towards the emerging economies and rentier states. This is part of the favourable "geographical and sectoral specialisation" put forward by other studies [Chepeta *et alii*, 2008]. Taken together these new players accounted for 44% in the EU15 exports of goods in 2007⁶, much more than in Japan's exports (35%) or in the US exports (32%). The EU15 imported also more from the new players (more than 55% of its imports) than the US (44%) but less than Japan (57%), **Figure 1.2**.

⁶ Because of the lack of data in bilateral trade flows in services, the following analysis refers exclusively to international trade in goods.

**Figure 1.2. - Emerging countries & rentier states:
share in the international trade of the Triad from 1995 to 2007 (merchandise trade)**



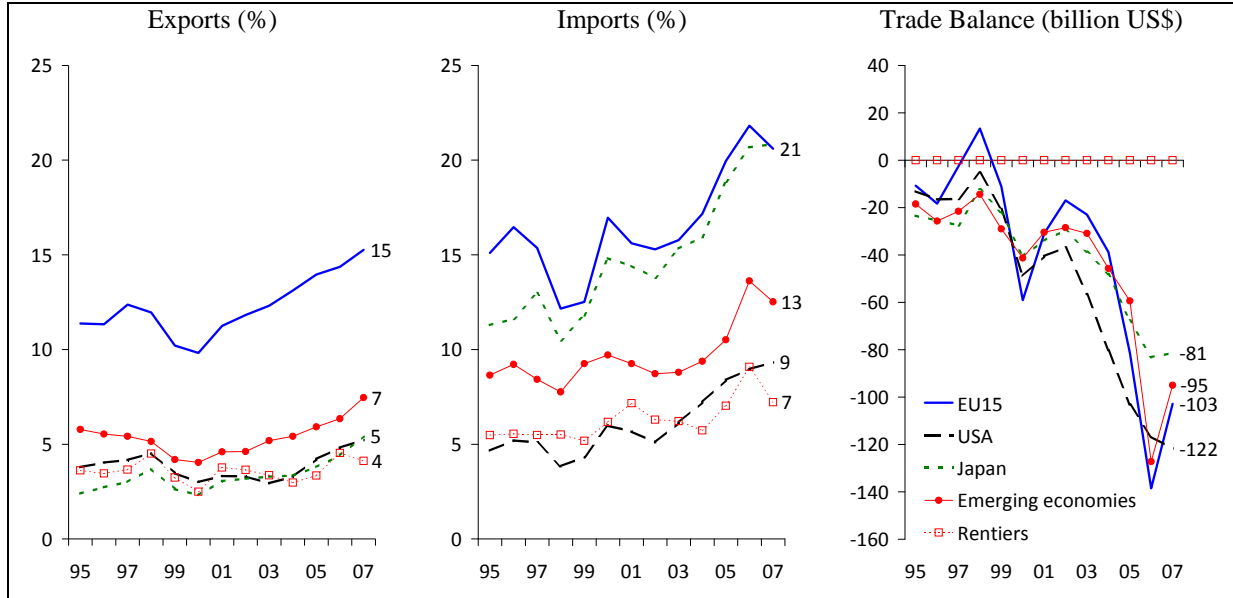
Source: Authors' calculations from CEPII, CHELEM-INT database.

In fact, the difference in the trade orientation of the “Three Big” derived mainly from their trade with rentier states (**Figure 1.3**). In 2007, EU15 directed 15% of its exports towards rentier states while in the cases of Japan and the US this share remained stable at about 5% each. In periods when high-energy prices push up the rentier states' income, this structural orientation allows the EU exporters to benefited from the increase in their import demand. But such a trade pattern puts EU15 exports at risk when oil prices are declining.

The differences between the “Big Three” is less marked in their trade with the group of emerging economies, however the EU15 and Japan proved to be more able than the US to take advantage of their rising demand in manufactured products since the end of the 1990 (**Figure 1.4**).

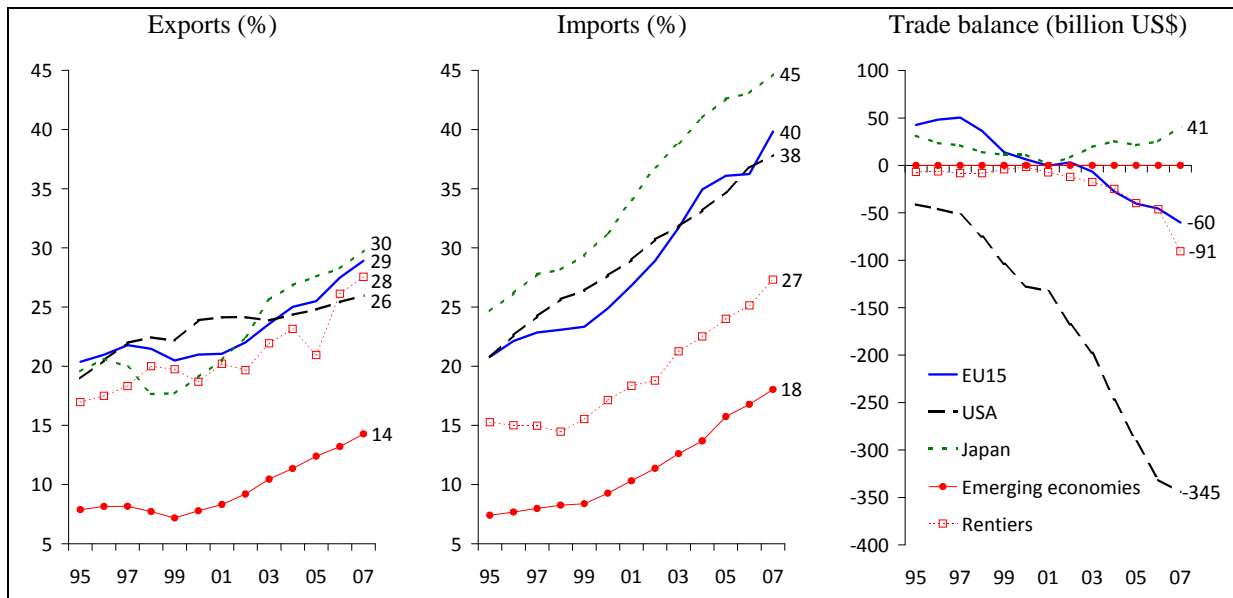
On the import side, the US, the EU15 and Japan turned all very rapidly towards emerging economies. Their share in the “Big Three” imports rose by 20 percentage points or more between 1995 and 2007. In 2007, Japan imported almost as much manufactured goods from emerging economies as from advanced economies.

Figure 1.3. - Rentier states: share in the international trade of the Triad, of emerging economies and of rentier states, from 1995 to 2007 (merchandise trade)



Source: Authors' calculations from CEPII, CHELEM-INT database.

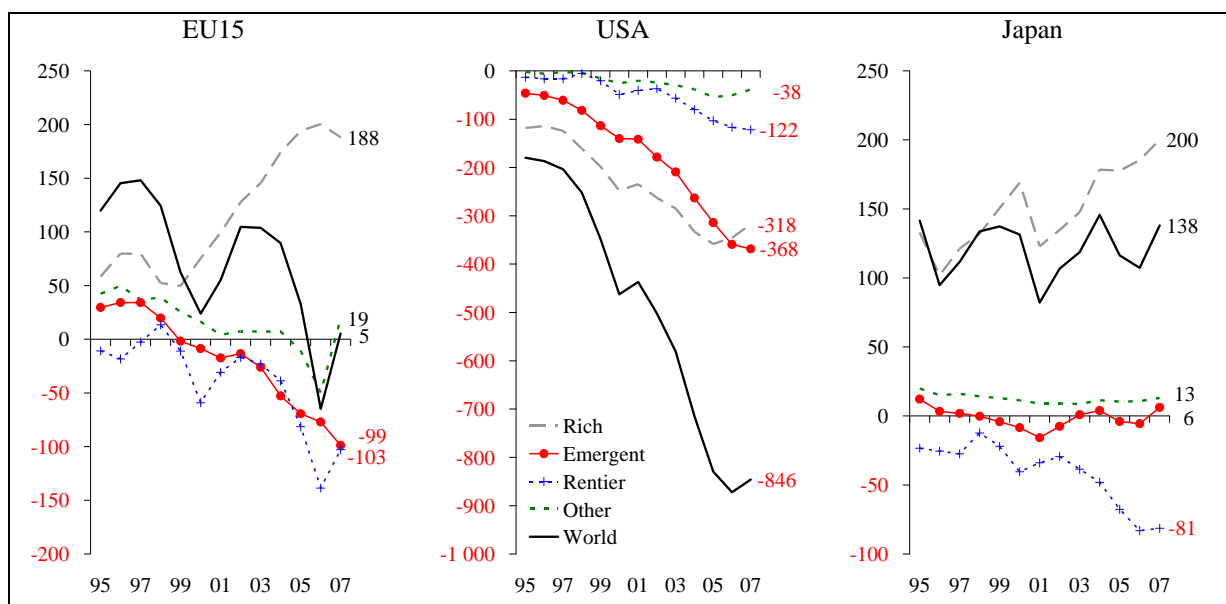
Figure 1.4. - Emerging economies: share in the manufacturing trade of the Triad, of emerging economies and of rentier states, from 1995 to 2007 (merchandise trade)



Source: Authors' calculations from CEPII, CHELEM-INT database.

The patterns of trade balance of the Triad show contrasted trends (**Figure 1.5**). Up to the early 2000s, the EU15 enjoyed a global trade surplus, as its surpluses with rich countries more than offset its deficits with rentier states and emerging countries. Since the middle of the decade, its enlarging trade deficits were not compensated by its surplus. The US has trade deficits with all the four groupings, but the biggest ones stem equally from trade with rich and emerging countries. By contrast, Japan displays an overall trade surplus thanks to its huge trade surplus with rich countries. Japan is the only member of the Triad which achieves an almost balanced trade with emerging economies, a situation which reflects the position of Japan as a supplier of inputs to manufacturing platforms in emerging Asia.

Figure 1.5. - Trade balance of the Triad, by country groupings
(merchandise trade, billion US\$)



Source: Authors' calculations from CEPII, CHELEM-INT database.

1.2.4. EU15 strong position in emerging and rentier markets

Emerging and rentier states thus definitely play an increasing part in the trade of the Triad and especially in the case of the EU15. To what extent is the reverse true? How has evolved the position of the Big Three, and especially that of the EU15, in the foreign trade of the new players?

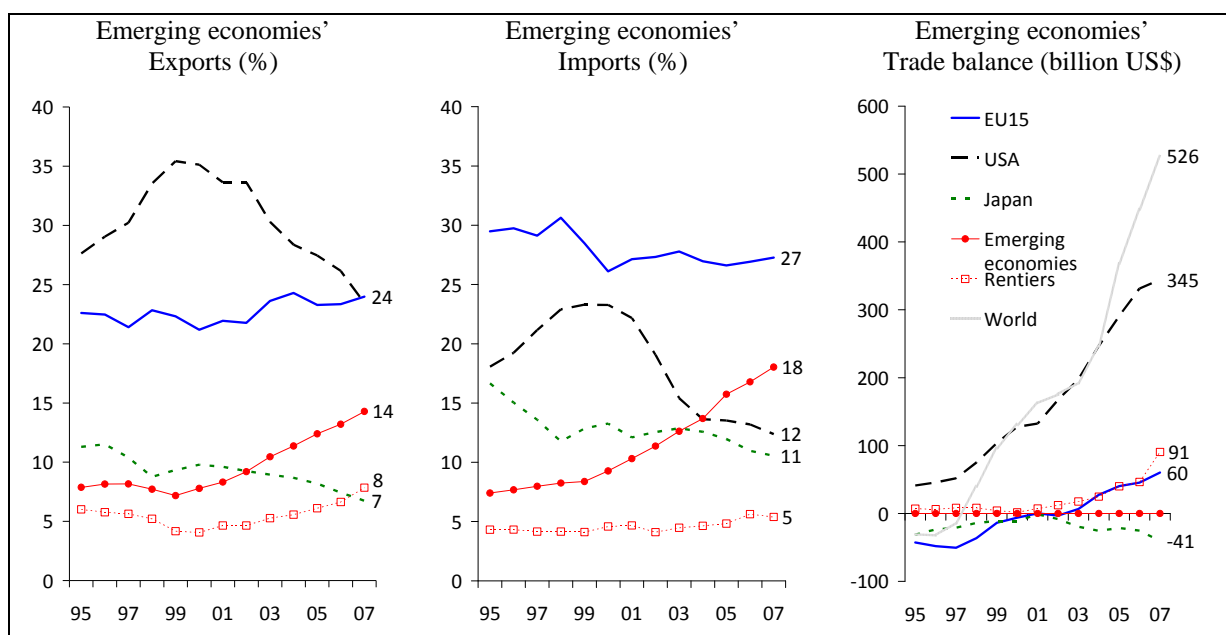
The Triad used to hold a dominant position both as a supplier and as a market for emerging economies, but since in 1995 its importance has declined (**Figure 1.6**).

In 1995, the Triad supplied emerging economies with 64% of their imports of manufactured goods but this share fell to only 50% in 2007. This drop was mainly attributable to the US and Japan. EU15 market share shrunk only moderately and in 2007 the EU15 was still, by

far, the major supplier of emerging economies, supplying 27% of their global imports that was more than the cumulated shares of the US and Japan (23%).

The importance of the Triad as a *market* for emerging economies' manufactured exports also diminished (from 62% to 54%). The EU15 and the US remained their first markets (receiving each 24% of their exports in 2007) ahead of Japan (14%).

Figure 1.6. - Emerging economies: direction of trade by country groupings from 1995 to 2007 (manufactured goods)



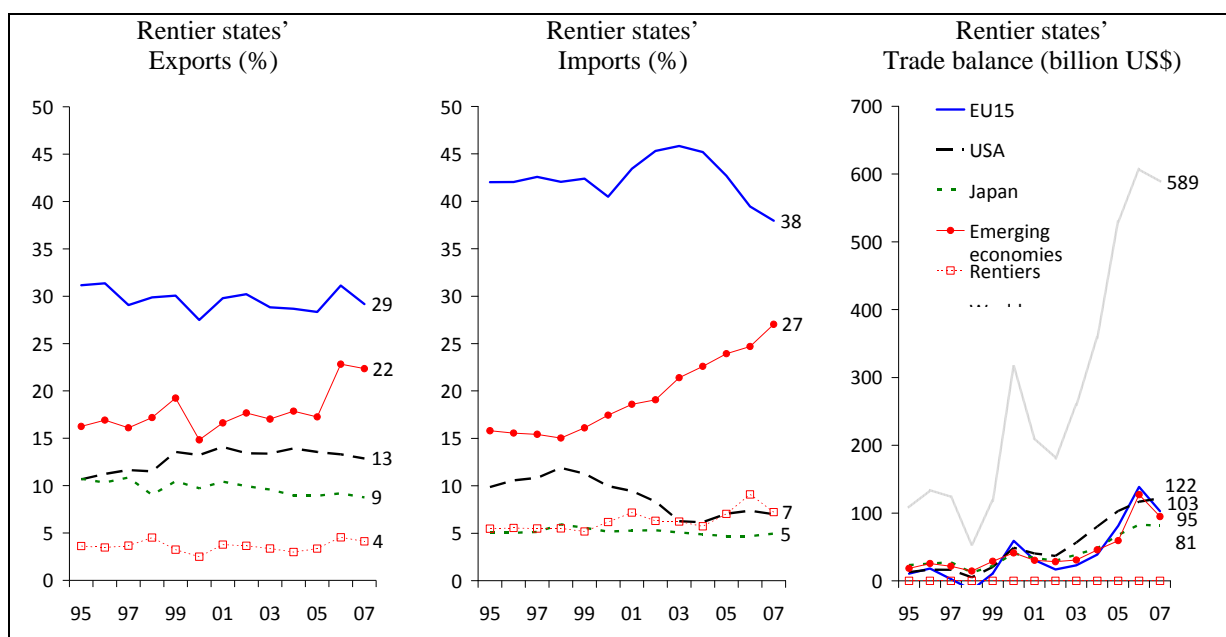
Source: Authors' calculations from CEPII, CHELEM-INT database.

As a most remarkable trend of this period, trade among emerging economies intensified rapidly, becoming by far the most dynamic segment of their international trade (22% of their exports and 27% of their imports in 2007). While this trend may have been an argument supporting the “decoupling” scenario in the 2000s, the importance of the US and EU15 markets has remained unrivalled, which explains the shock caused by the collapse of their demand since 2008.

In the rentier states' trade, the Triad lost some ground but still accounted for more than half exports and imports in 2007. The EU15 keeps an especially strong position (**Figure 1.7**). The EU15 large share in their imports (about 40%) contrasts with the small and declining market shares held by the US and Japan (7 and 5% in 2007). The EU15 was also a major market for the rentier states and received 29% of their exports of goods, that was more than the US and Japan taken together (22%).

All in all, faced to the shock represented by the emergence of new competitive exporters of manufactured goods, the EU15 resisted quite well. In the imports of emerging economies, EU15 market share shrunk only slightly; in the imports of rentier states it remained large and almost stable. Besides, EU15 share in the manufactured imports of rich countries remained stable (at about 17%). The US and Japanese performance proved to be less resilient and their market shares narrowed in all markets.

Figure 1.7. - Rentier states: direction of trade by country groupings from 1995 to 2007 (merchandise trade)



Source: Authors' calculations from CEPII, CHELEM-INT database.

2. WHAT HAS DRIVEN THE EU15 TRADE WITH EMERGING ECONOMIES AND RENTIER STATES?

This section presents an in-depth analysis of the EU15 trade with emerging economies and rentier states. We built an original database drawn from Eurostat Comext and used different criteria to analyse the trade flows (see Methodological appendices). The traditional classification by industries (**Appendix M.A.1.**) was complemented by a classification by stage of production, which is helpful to characterize the position of countries in the international division of labour. This classification, based on the United Nations 'Broad Economic Categories' (BEC, see **Appendix M.A.2.**) distinguishes five categories of products: 1) Primary products, 2) Semi-finished goods, 3) Parts and Components (P&C), 4) Capital goods, 5) Consumption goods. The calculation of the unit value of traded goods made it possible, on the one hand, to observe the different types of trade between the partners and, on

the other hand, to assess the position of exported and imported goods in the quality ladder, according to three price/quality ranges (down-market, middle-market and up-market goods) (**Appendix M.A.5**). Finally, the technological content of the traded goods was measured according to two different criteria (**Appendix M.A.4**). Combining these different criteria, the analysis provides a comprehensive view of the evolution of the trade patterns of the EU15 with emerging economies and rentier states.

First, the analysis gives ground to the distinction between emerging economies and rentier states, showing that they differ by their type of trade (intra-vs inter-industry trade) which reflects their position in the international division of labour. The subsequent points turn to the geographic direction of the EU trade and focuses on the distinction between neighbours (countries in Europe & Periphery) and distant partners (mainly Asian countries).

2.1. Emerging economies and rentier states: different trade profiles

2.1.1. Inter- vs intra-industrial specialisation

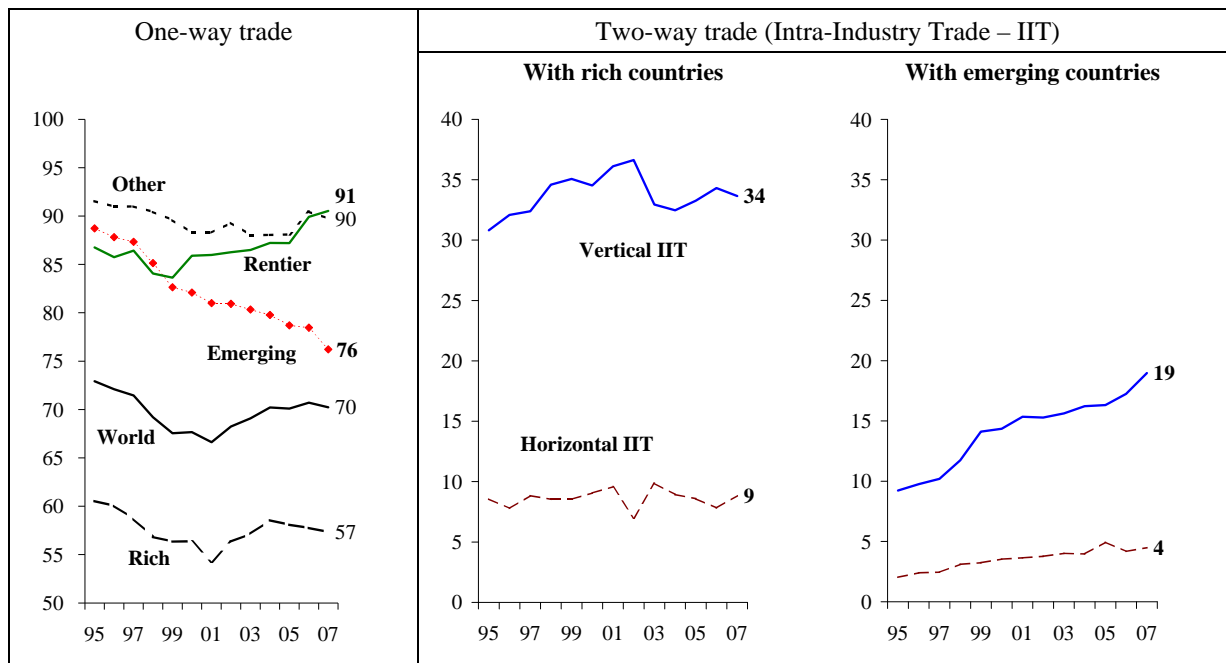
To show how relevant the distinction is between emerging economies and rentier states, we first consider the types of trade (see **Methodological Appendix M.A.4**) between the EU15 and the different groupings (considering only manufactured goods): one-way trade (inter-industry trade), two-way trade (intra-industry trade) in vertically differentiated products (“exchange of quality”) and two-way trade in horizontally differentiated products (“exchange of variety”).

The EU15 trade with rentier states reflects most traditional complementarity, even considering only manufactured products. One-way trade plays a dominant part (91%) and there is no change in the type of specialisation over the period (**Figure 2.1**). This inter-sectoral complementarity which characterises countries with different economic structures, is also dominant in the EU15 trade with “other” economies (less developed economies).

By contrast, in trade with emerging economies, the share of one-way trade declined sharply during the period (from 89% to 76 %) and intra-industry trade (IIT) increased correspondingly. The EU15 exports and imports are more and more taking place within the same product categories, as a result of the modernization of the manufacturing sector in emerging economies. However, IIT with emerging economies still mainly consists in two-way trade in vertically differentiated products (“exchange of quality”). The importance of two-way in horizontally differentiated products (“exchange of variety”) is still relatively limited, meaning that emerging economies and the EU15 do not compete in the same quality segment [Fontagné *et alii*, 2008].

The relative importance of ITT clearly shows that since the mid 1990s, the specialisation profile of emerging economies has departed from those of other developing economies and of rentier states but also that, in 2007, it was still quite different from that of the rich country group.

Figure 2.1. - EU15 type of trade by country grouping
(% of manufacturing trade with each grouping)



Note: The flows by type of trade are calculated at the 8 digit level of HS classification. Then, two way trade corresponds here to trade in the same “product” rather than in the same “industry” (see **Methodological Appendix M.A.4**).

Source: Authors’ calculations from Eurostat Comext database.

2.1.2. The evolving division of labour between the EU15 and emerging economies

Trade by stage of production (see **Methodological Appendix M.A.3**) further illustrates the differences between the positions of emerging partners and rentier states and highlights the role played by the emerging economies in the evolution of the EU15 specialisation from 1995 to 2007 (**Table 2.1**).

In the EU15 trade with the world, capital goods and parts and components (P&C) were the most dynamic exports during the period and accounted for its biggest and fastest growing trade surpluses. By contrast, consumer goods were characterised by relatively slow exports and an enlarging deficit.

Trade with emerging economies and rentier states played an important part in these trends, as taken together they were the most dynamic markets for the European exports of capital goods and P&C. However, the two groupings contributed differently to the EU15 exports during this period.

Table 2.1. - EU15 trade by stage of production and partner

	P	SF	PC	C	K	Total	P	SF	PC	C	K	Total
EXPORTS	2007 (%)						1995-2007 change (point of %)					
Rich	1.3	14.3	8.8	13.5	8.9	46.7	-0.7	-1.5	-0.8	-4.5	-1.2	-8.7
Emerging	1.4	9.3	6.6	5.2	7.8	30.2	-0.1	+2.5	+2.5	+0.9	+1.8	+7.6
Rentier st.	0.3	4.2	2.7	4.3	4.9	16.4	0.0	+0.5	+0.7	0.0	+2.2	3.4
Other	0.2	2.1	1.3	1.4	1.8	6.8	-0.1	-0.5	0.1	-0.8	-0.9	-2.2
World	3.2	29.8	19.4	24.2	23.4	100.0	-0.9	1.1	2.4	-4.5	2.0	0.0
IMPORTS	2007 (%)						1995-2007 change (point of %)					
Rich	1.9	9.9	8.5	8.2	8.8	37.4	-2.0	-3.4	-3.2	-3.9	+0.4	-12.2
Emerging	2.8	9.3	4.7	12.9	6.6	36.2	-0.3	+1.3	+3.1	+2.0	+5.2	+11.4
Rentier st.	13.3	5.7	0.3	0.5	0.2	20.0	+2.9	+1.0	-0.1	-0.5	-0.3	+3.0
Other	1.5	1.9	0.5	2.0	0.6	6.4	-1.8	-0.1	0.2	-0.7	+0.2	-2.3
World	19.5	26.7	13.9	23.6	16.2	100.0	-1.2	-1.3	0.0	-3.1	+5.5	0.0
BALANCE	2007 (billion euros)						1995-2007 change (billion euros)					
Rich	-9.2	45.0	-6.6	58.7	-9.4	78.5	-1.7	+33.4	+1.2	+32.7	-17.5	+48.0
Emerging	-21.9	-10.6	19.4	-116.3	8.1	-121.3	-15.5	-6.6	+8.5	-89.5	-11.4	-114.5
Rentier st.	-185.6	-26.6	31.0	49.3	61.2	-70.8	-143.8	-22.4	+24.0	+34.9	+51.5	-55.8
Other	-18.7	0.9	10.8	-10.5	14.1	-3.3	-6.6	-1.8	6.5	-8.5	+5.0	-5.3
World	-235.4	8.7	54.6	-18.8	74.0	-116.9	-167.5	+2.6	+40.2	-30.5	+27.5	-127.6

Note: P, primary goods; SF, semi-finished goods; PC, parts & components; C, consumption goods; K, capital goods (see **Methodological Appendix M.A.3**).

Source: Authors' calculations from Eurostat Comext database.

The EU15 exports to rentier states consist mainly of final goods (up to 59% in 2007). Rentier states were the fastest growing market for the EU15 exports of capital goods and received one-fifth of these exports in 2007 (against 13% in 1995). Trade in capital goods with rentier states gave rise to the EU15 biggest trade surpluses in 2007. Traditional complementarity is thus still a strong determinant of the EU15 trade pattern. The EU15 trade surplus with rentier states in manufactured goods offsets $\frac{3}{4}$ of its deficit in primary products. European producers of machinery, electronics and transport equipment were able to take advantage of the expanding demand of the rentier states since the early 2000s (**Table 2.2**).

In exports to emerging countries, intermediate goods (semi-finished goods and parts & components) take a more important part than final goods, and were the most dynamic export category from 1995 to 2007. With the development of the international segmentation of production process (ISPP), supplying inputs for the emerging economy production chains was at the core of the EU15 exports (see **Table 2.1**). P&C is the only production stage in which the EU15 succeeded in enlarging its trade surplus with emerging economies, showing the crucial impact of this new division of labour.

The EU15 exports of capital goods to emerging economies were also on a fast track but as its imports rocketed, its surplus narrowed. Exports of consumption goods to emerging economies remained relatively weak while imports rose and the EU15 deficit widened tremendously.

Table 2.2. - EU15 trade by industry group and partner in 2007*

	Energy	Food-Ag	Textiles	Wood-Pa	Chemicals	Metal.	Machinery	Elec.Mach	Electronics	Transp Eq.	Total
EXPORTS (%)											
Rich	2.5	2.8	2.0	2.7	10.8	2.7	7.5	2.1	5.7	7.8	46.7
Emerging	0.8	1.4	1.4	1.5	5.9	2.2	6.6	1.8	3.4	5.1	30.2
Rentier st.	0.5	1.2	0.7	1.1	2.6	0.9	4.1	0.9	2.0	2.4	16.4
Other	0.3	0.5	0.4	0.4	1.2	0.3	1.3	0.4	1.0	0.9	6.8
World	4.1	6.0	4.5	5.6	20.4	6.2	19.6	5.2	12.2	16.2	100.0
IMPORTS (%)											
Rich	1.2	1.6	0.8	1.8	7.6	2.5	5.1	1.7	8.6	6.4	37.4
Emerging	1.1	3.2	5.8	3.7	3.5	3.9	3.6	1.8	6.7	2.9	36.2
Rentier st.	15.7	0.5	0.1	0.3	1.2	1.7	0.2	0.1	0.1	0.2	20.0
Other	0.9	1.8	1.1	0.3	0.5	0.7	0.1	0.2	0.7	0.1	6.4
World	18.9	7.1	7.8	6.2	12.7	8.8	9.0	3.7	16.1	9.7	100.0
TRADE BALANCE (billion euros)											
Rich	16.0	13.0	15.1	9.3	32.4	0.5	26.0	2.8	-47.3	10.4	78.3
Emerging	-5.3	-27.6	-64.3	-33.5	28.0	-26.9	35.8	-2.3	-50.1	25.5	-120.7
Rentier st.	-216.7	9.8	7.4	8.8	16.4	-11.9	51.0	11.4	24.3	28.8	-70.8
Other	-8.5	-18.8	-9.8	0.7	9.3	-5.9	14.8	2.3	2.7	10.0	-3.1
World	-214.5	-23.5	-51.7	-14.6	86.1	-44.2	127.6	14.1	-70.4	74.8	-116.3

*Figures of total flows (all industry groups) par partner may slightly differ from that in **table 5** (all production stages) because of the matching problems in the two classifications.

Source: Authors' calculations from Eurostat Comext database.

The surge in imports of capital goods and consumption goods comes from the electronic sector which was by far the key driver of the EU15 imports from the emerging areas. Electronic capital goods (computers and office machinery) and consumption goods were the source of the largest EU15 trade deficit with emerging economies in 2007, having by far overtaken textile. The EU15 enlarged its trade surplus in machinery, chemical products and transport equipment, industries groups where its traditional advantages are located (see **Table 2.2**).

To summarise, trade with rentier states has strengthened the EU15 specialisation in capital goods, while trade with emerging economies has enhanced its position as a supplier of intermediate goods in the value added-chain. In 2007, in most stages of production, the new players taken together provided the EU15 an export market which had a size comparable to that of the rich country group. Only in consumption goods did the latter remained a much larger export market, as European sophisticated consumption goods fit better the demand of high income countries than that of emerging ones.

2.2. Emerging Europe and emerging Asia: different trade profiles

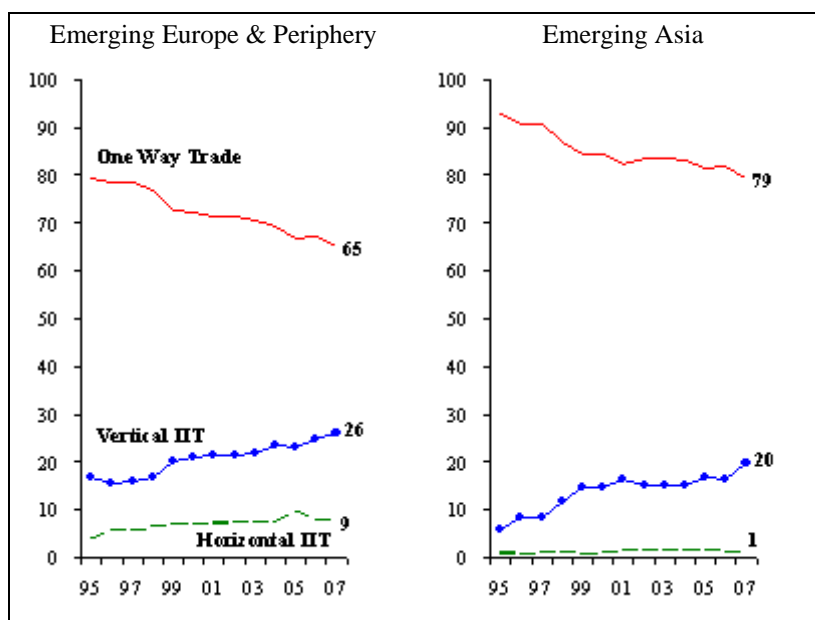
As amply shown by recent research works, “neighbourhoods matter” [World Bank, 2009a; Mayer, 2008]. In the EU, the process of enlargement and the neighbourhood policy have strengthened the effect of geographic proximity. The present section shows that the geographic proximity and regional ties have contributed to shape the evolution of the European trade with the new players. The following subsets are distinguished (see **Box 1.2**): 1) emerging Europe & Periphery, 2) emerging Asia, 3) rentier states located in the EU15 and periphery and 4) other rentier states. The analysis focuses on the EU15 trade with emerging

Europe & Periphery and with emerging Asia, which were the most important partners, while trade with emerging economies in America was left aside.

2.2.1. Intra-industry trade: Asia still lags behind

Again, the type of trade is helpful to characterise the specialisation profile of the different emerging regions. The relative importance of one-way trade (inter-industry trade) declined with both emerging Europe & Periphery and with emerging Asia, but it still accounted for a more important share with the latter (79% in 2007) than with the former (65%). This does not come as a surprise given the difference in the level of income per capita between the two areas and the observation that this type of trade is positively correlated with the economic distance [Fontagné & Freundenberg, 1997]. Two-way trade with emerging Asia increased very fast but reached in 2007 the level it had with emerging Europe in 1995. Moreover and for the same reason, intra-industry trade with emerging Asia is still exclusively an exchange of vertically differentiated products (goods of different quality) while two-way trade in horizontally differentiated products (goods of similar quality) accounted for 9% of trade with emerging Europe & Periphery (**Figure 2.2**). Beyond the geographic distance, the economic distance has been a crucial determinant of trade between the EU15 and each of the two emerging regions.

Figure 2.2. - EU15 manufacturing trade by type of trade with emerging partners
(in % of sum of exports and imports with partner)



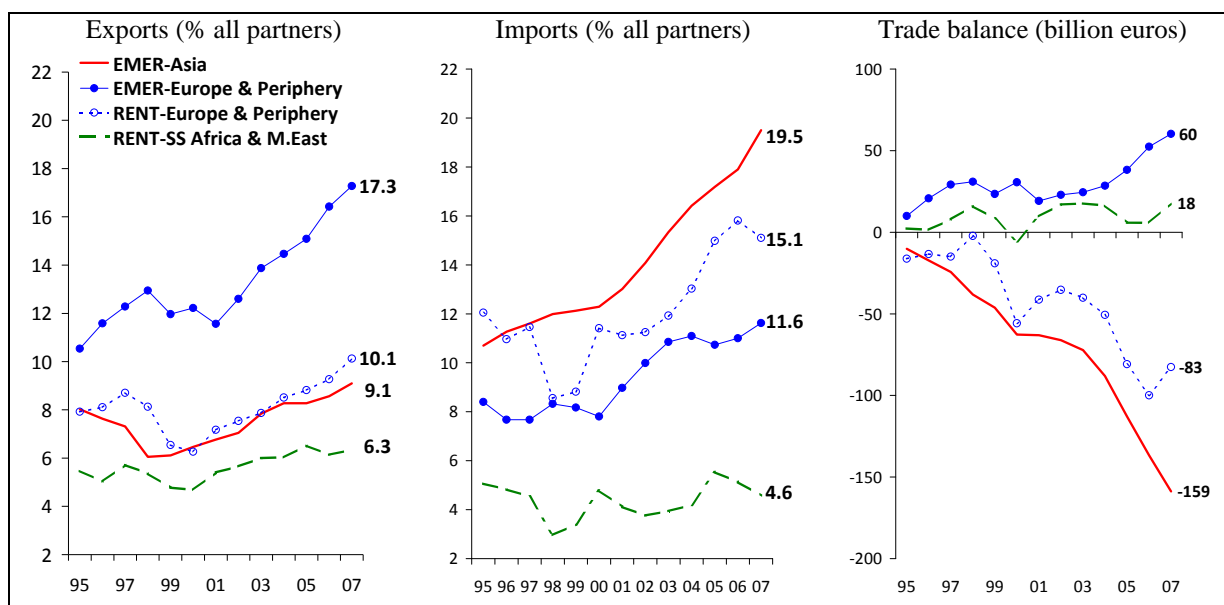
Note: IIT: Intra Industry Trade (see **Methodological Appendix M.A.4**).

Source: Authors' calculations from Eurostat Comext database.

2.2.2. The surge of EU15 exports to neighbour markets

The other striking difference lies in the asymmetry of the EU15 trade flows with the two regions (**Figure 2.3**). The EU15 exports to emerging Europe & Periphery expanded much faster than to emerging Asia and, as a result, were 70% larger than exports to Asia in 2007, whereas the levels were similar in 1995. In 2007, the ranking of the different emerging markets for the EU15 was very different from that prevailing at the world level. The resilience of the EU15 exports in emerging markets, noted in section 1 above (1.2.4), stemmed mainly from its performance in its bordering markets (and in fact mostly in the emerging countries which entered the Union in 2005 and in 2007). The enlargement process proved successful in opening new markets for the EU15 (**Figure 2.4**).

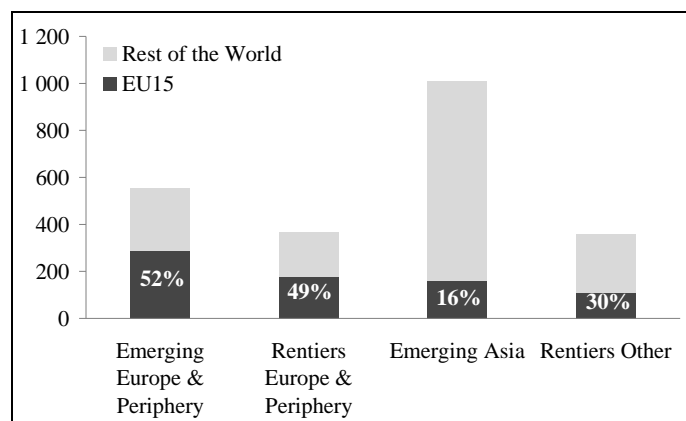
Figure 2.3. - EU15 trade with emerging economies and rentiers, regional breakdown (manufacturing), 1995-2007



Source: Authors' calculations from Eurostat Comext database.

By contrast, the surge of the EU15 imports came mainly from emerging Asia. Its share almost doubled to 19.5%, while that of emerging Europe & Periphery topped at 15.1%. Trade with Asia was thus responsible for the whole EU15 trade deficit with emerging economies. This surge in imports from emerging Asia must be interpreted in the light of the reorganisation of industrial production in Asia. Emerging economies (at the top of which China) have become production bases for manufacturing firms from matured economies (Japan, Taiwan, South-Korea) so that EU15 imports of final goods from Asia are now sourced from emerging countries. With emerging Asia, the EU15 incurred ballooning deficits in all stages of production, the largest ones in final goods.

Figure 2.4. - Emerging and rentier countries' imports from EU15 and rest of the world 2007 (billion US\$)



Note: Percentages in brackets correspond to the EU15 share in each market.

Source: Authors' calculations from CEPII, CHELEM-CIN database.

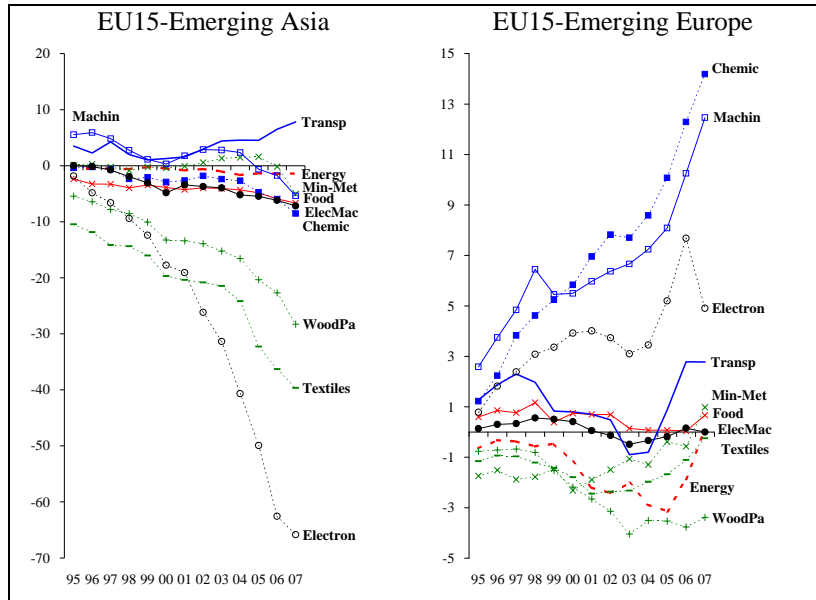
It is worth underlining that since 2005, the EU15 exports to rentier states in Europe & Periphery have increased more rapidly than to emerging Asia⁷ (see **Figure 2.3**) and that in 2007 they were the EU15 second export market, overtaking Asia. The rise in oil and raw material prices has reinforced their importance as economic and trade partners for the EU15.

Since the mid 1995s, emerging Asia and Europe & Periphery have displayed diverging macroeconomic imbalances (respectively excess saving and excess investment) which are reflected in their trade balances with the EU15. At the level of industry groups, transport equipment stood as the only resilient surplus in the EU15 trade with emerging Asia. With emerging neighbours, the EU15 recorded trade surpluses in all industries and the largest ones were located in chemical products and machinery, and to a lesser extent in electronics and transport equipment (**Figure 2.5**).

In strengthening commercial ties with emerging Europe & Periphery, the EU15 has built up growing trade surpluses (especially in capital, semi finished and to a lesser extent in parts & components) which only partially compensated for the deficits with emerging Asia. The Eastward enlargement and the neighbourhood policy proved helpful to strengthen the EU15 position in international trade and to cushion some consequences of the increased competition from emerging Asia (**Figure 2.6**).

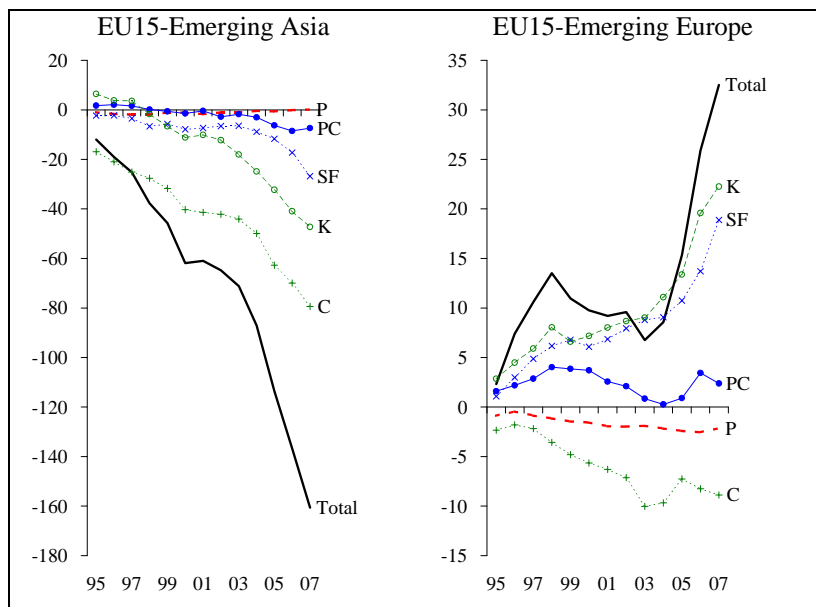
⁷ In fact, among the rentier states, the most dynamic markets for the EU15 were rentier states in its periphery, which by far exceed the importance of Norway.

Figure 2.5. - EU15 trade balance by industry group with emerging asian and european economies (billion euros)



Source: Authors' calculations from Eurostat Comext database.

Figure 2.6. - EU15 trade balance by production stage with emerging Asia and Europe (billion euros)



Note: P, primary goods; SF, semi-finished goods; PC, parts & components; C, consumption goods; K, capital goods.

Source: Authors' calculations from Eurostat Comext database.

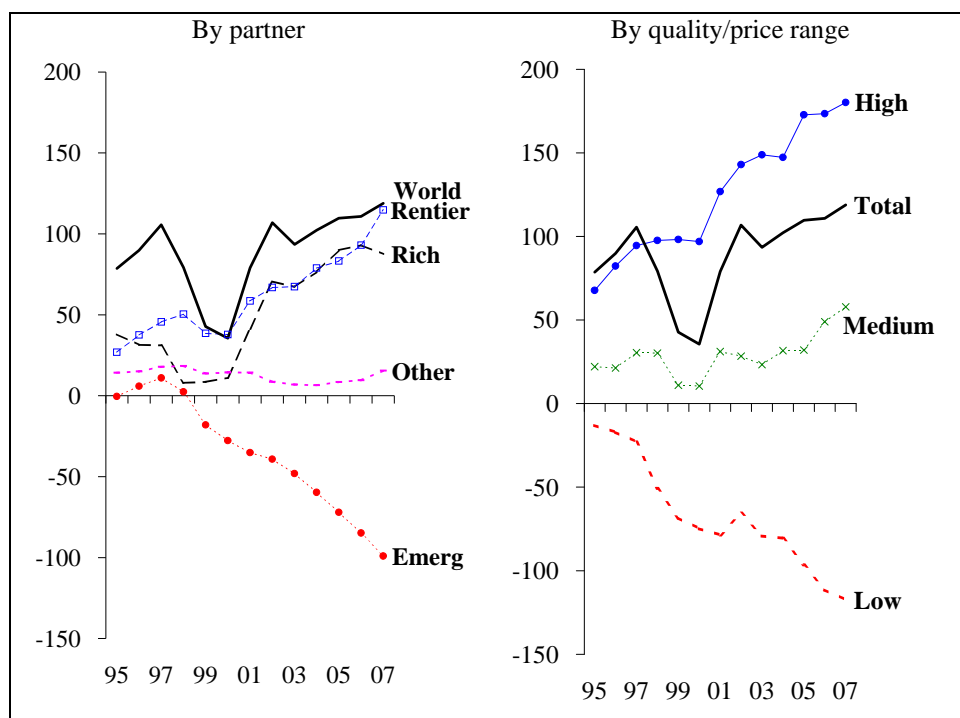
2.3. EU15 exports to emerging Europe and Asia by quality range and technology content

The analysis now turns to the characteristics of the EU15 exports in terms of position in the quality ladder and of technology content.

2.3.1. The EU15 exports more up-market goods to emerging Asia than to emerging Europe

Compared to other advanced economies, the EU15 has a global specialisation in high-price/high-quality goods and this has helped it to maintain its market shares, as this quality range has been less exposed to price competition from new comers [Curran & Zignago, 2009; European Commission, 2008; Fontagné *et alii*, 2008]. **Figure 2.7** shows that the EU15 global trade surplus in manufactured products has come mainly from its rapidly growing surplus in high-price/high-quality products, which has more than compensated its ballooning trade deficit in low-quality/low-price range (see **Methodological Appendix M.A.5**).

Figure 2.7. - EU15 trade balance by partner and quality/price range* (in manufacturing sector) (billion euros)



*See **Methodological Appendix M.A.5** for the quality/price classification.

Source: Authors' calculations from Eurostat Comext database.

The bulk of trade in up-market products still takes place with rich countries (**Table 2.3**), which is consistent with the hypothesis and empirical evidence according to which the price of goods is positively related to the development level of exporter and that there is a positive relationship between income level and demand for quality [Fontagné *et alii*, 2008].

However, it is worth underscoring that, from 1995 to 2007, emerging countries and rentier states offered the European producers their fastest growing markets in this price/quality range, and taken together they received 40% of the EU15 exports of high-end goods in 2007.

The strength of the EU15 in up-market products is most remarkable in its trade with the emerging economies. This was the only category in which the EU15 succeeded in keeping and even enlarging its trade surplus with this country grouping. In this high-price/high-quality range, the EU-15 recorded its largest trade surplus with emerging Europe & Periphery and its only trade surplus with emerging Asia (**Figure 2.8**).

**Table 2.3. - EU15 trade by partner and quality/price range, 1995-2007
(manufacturing sector)**

EXPORTS	2007 (%)					1995-2007 change (point of %)				
	Low	Medium	High	nec	Total	Low	Medium	High	nec	Total
Rich	9.6	17.7	17.6	2.0	46.8	-2.9	-0.7	-5.4	+0.7	-8.3
Emerging	9.0	10.2	8.8	1.9	30.0	+1.3	+3.4	+1.2	+1.7	+7.6
Rentier	4.9	5.7	5.6	0.2	16.4	+0.3	+1.5	+1.1	+0.1	+3.0
Other	2.6	1.8	2.2	0.1	6.7	-0.8	-0.8	-0.6	+0.0	-2.3
World	26.1	35.5	34.3	4.2	100.0	-2.1	+3.3	-3.7	+2.5	0.0
IMPORTS	2007 (%)					1995-2007 change (point of %)				
	Low	Medium	High	nec	Total	Low	Medium	High	nec	Total
Rich	12.3	15.9	13.9	2.5	44.6	-5.9	-3.0	-5.5	+1.7	-12.7
Emerging	20.9	13.2	5.0	2.1	41.2	+6.1	+4.4	+2.0	+1.7	+14.2
Rentier	2.5	3.3	1.9	0.4	8.1	-0.4	-0.1	-0.2	+0.2	-0.6
Other	2.5	1.9	1.5	0.1	6.0	-0.6	-0.4	+0.2	0.0	-0.8
World	38.2	34.4	22.3	5.1	100.0	-0.9	+0.9	-3.6	+3.5	0.0
TRADE BALANCE	2007 (billion euros)					1995-2007 change (billion euros)				
	Low	Medium	High	nec	Total	Low	Medium	High	nec	Total
Rich	-19.3	44.8	66.9	-4.0	88.5	-11.4	+29.7	+33.8	-6.3	+45.9
Emerging	-127.4	-21.5	56.9	0.3	-91.7	-111.0	-21.3	+34.7	+0.9	-96.7
Rentier	34.9	35.5	50.8	-2.1	119.2	+25.3	+29.1	+39.0	-2.0	+91.4
Other	3.9	1.0	11.7	0.5	17.1	-0.1	-2.5	+4.2	+0.2	+1.8
World	-107.9	59.9	186.4	-5.3	133.1	-97.2	+35.1	+111.7	-7.2	+42.4

Note: nec, non elsewhere classified

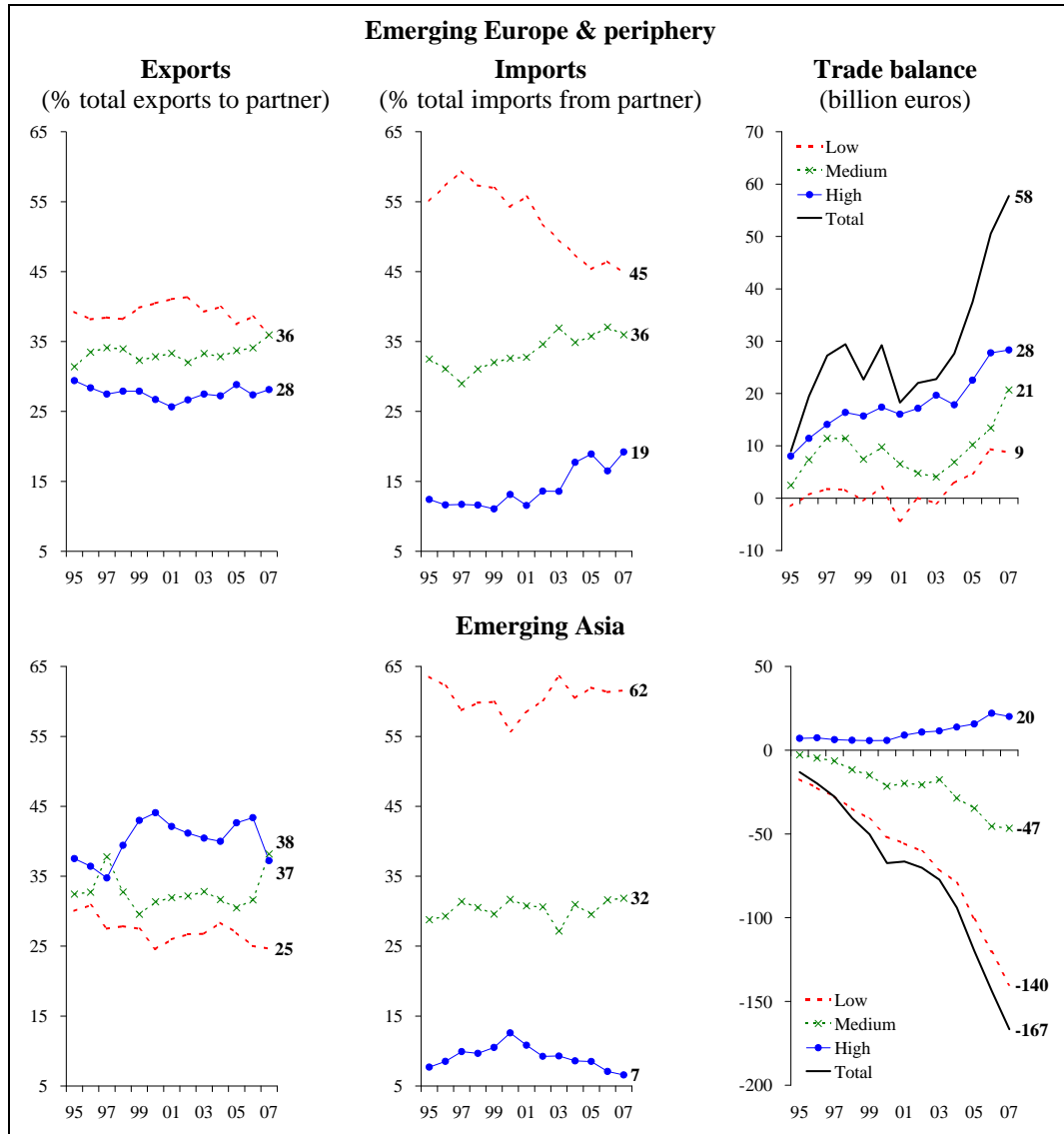
Source: Authors' calculations from Eurostat Comext database.

However, the trends in EU15 exports by price/quality range to the two areas tells different stories.

Exports to emerging Europe & Periphery increased rapidly in all price/quality ranges and the distribution did not change during the decade. Exports were relatively evenly distributed

across ranges, thus following the pattern of the EU15 global exports. Only exports of Parts and components show a trend towards high price/quality range (Table 2.4).

Figure 2.8. - EU15 trade with emerging Asia and emerging Europe & periphery by quality/price range* (manufacturing sector)



* Non elsewhere classified products by price/quality range are here excluded from total manufacturing.

Source: Authors' calculations from Eurostat Comext database.

By contrast, there was a trend towards price/quality upgrading in EU15 exports to emerging Asia which in 2007 contained relatively more high-price/high-quality goods and less low-price/low-quality goods than exports to emerging Europe & Periphery. Up-market goods made up 37% of exports to emerging Asia (against 28% to European neighbours). Down-

market goods accounted for 25% of exports to emerging Asia and for 36% of exports to emerging Europe & Periphery (**Figure 2.8**). This bias in favour of up-market goods is observed in all production stages and conflicts with the usual observation according to which the demand for quality increases with the level of income of importers (**Table 2.5**).

Table 2.4. - EU15 trade with emerging Europe & periphery by stage of production and price/quality range* (manufacturing sector)

Production stage	Price/quality range	EXPORTS		IMPORTS		TRADE BALANCE	
		% 2007	point % 1995-2007	% 2007	point % 1995-2007	billion euros	
		2007	1995-2007	2007	1995-2007	2007	1995-2007
	Total	37,0	-2,1	32,9	-2,2	26,9	+22,2
Semi Finished goods	Low	11,9	-1,8	14,7	-5,8	3,1	+4,0
	Medium	12,8	-0,1	11,0	+1,8	9,7	+7,4
	High	12,3	-0,2	7,2	+1,9	14,1	+10,7
	Total	19,7	+4,6	19,9	12,4	11,2	+7,4
P&C	Low	7,1	+2,3	9,9	+4,4	0,3	+0,1
	Medium	6,7	+1,8	5,6	+4,4	5,3	+3,6
	High	6,0	+0,6	4,4	+3,6	5,6	+3,7
	Total	20,9	-3,9	39,0	-12,9	-12,5	-6,1
Consumption goods	Low	9,1	-3,3	15,7	-9,7	-3,8	-0,8
	Medium	7,1	+0,1	16,7	-4,1	-8,9	-5,2
	High	4,8	-0,7	6,6	+0,9	0,3	-0,1
	Total	22,3	1,4	8,2	2,7	32,0	+25,3
Capital goods	Low	8,0	-0,5	4,5	+0,8	9,2	+7,0
	Medium	9,4	+2,8	2,6	+1,4	14,6	+12,3
	High	5,0	-0,9	1,1	+0,5	8,2	+6,0
Total manuf.		100,0	0,0	100,0	0,0	57,7	48,7

*Non elsewhere classified products by price/quality range are here excluded from total manufacturing.

Source: Authors' calculations from Eurostat Comext database.

Two reasons can be put forward to explain this apparent paradox. First, the geographic distance and the costs of entry into distant markets are likely to have a selection effect on exports and exporters, raising the price/quality level of the exported goods [Baldwin & Harrigan, 2007; Crozet *et alii*]. Second, a large proportion of intermediate goods are imported by Asian countries for processing and assembly, which drives up their quality/price level as the final products is to be exported to rich countries. And indeed, exports of high quality/price P&C were the fastest growing export segment of the EU15 to emerging Asia during this period which gives ground to this second reason.

It is interesting to note that consumer goods are under-represented in exports to emerging Asia (10.5%) which can be explained by the low level of income per capita combined with the low share of household consumption in GDP in East Asian economies. However, the European consumer goods exported to emerging Asia encompass relatively more medium- and high-price/high-quality goods than exports to emerging Europe & Periphery. To penetrate these low-income markets, the European exporters have to target the upper-income

households. Despite the rise of a local middle-class in the populous Asian emerging economies, only the categories at the top of the income distribution can afford European consumer goods [World Bank, 2007a]. The higher custom tariffs levied on this category of products is also likely to contribute to the relatively low level of imports.

Table 2.5. - EU15 trade with emerging Asia by stage of production and price/quality range* (manufacturing)

Production stage	Price/quality range	EXPORTS		IMPORTS		TRADE BALANCE	
		% 2007	point % 1995-2007	% 2007	point % 1995-2007	billion euros	
		25,7	+0,4	21,0	-2,6	-30,3	-27,7
Semi Finished goods	Low	8,5	-0,8	12,6	-0,4	-25,2	-22,5
	Medium	7,2	-0,0	6,4	-1,6	-9,9	-8,7
	High	10,0	+1,1	2,0	-0,6	4,8	+3,4
		29,4	+7,9	12,3	+5,7	-3,3	-6,4
P&C	Low	5,5	-0,2	9,1	+4,3	-18,9	-18,5
	Medium	9,8	+2,9	2,4	+1,4	3,5	+2,0
	High	14,1	+5,3	0,8	+0,1	12,2	+10,1
		10,5	-0,9	39,4	-23,3	-94,9	-72,8
Consumption goods	Low	2,3	-0,9	24,0	-16,5	-62,0	-46,6
	Medium	4,4	+2,3	13,8	-4,5	-32,5	-25,7
	High	3,9	-2,3	1,6	-2,2	-0,3	-0,5
		34,4	-7,4	27,3	+20,2	-38,4	-46,8
Capital goods	Low	8,4	-3,4	15,8	+10,7	-33,8	-35,0
	Medium	16,5	+0,4	9,2	+7,8	-8,0	-11,8
	High	9,4	-4,4	2,2	+1,6	3,5	+0,0
Total manuf.		100,0	-0,0	100,0	0,0	-166,9	-153,7

*Non elsewhere classified products by price/quality range are here excluded from total manufacturing.

Source: Authors' calculations from Eurostat Comext database.

2.3.2. The EU15 exports more high-tech goods to emerging Asia than to emerging Europe

According to a recent report [European Commission, 2008], the European performance in high-tech exports is mixed. On the one hand, "EU15's market share for this type of products is slightly lower than its overall market share"; on the other hand, EU15 is now the leading exporter, having overtaken the US. The following section analyses how trade with emerging economies have contributed to the European performance.

The OECD classification of manufacturing industries according to technology content distinguishes four categories of products: high-technology industries, medium-high technology industries, medium-low technology industries and low-technology industries goods (see **Methodological Appendix M.A.2**, broad definition).

From 1995 to 2007, the technological level of the EU15 global trade improved. On the export side, the importance of the low-tech products declined, the importance of medium-high and high-tech goods increased. Medium-high tech goods, which make up the bulk of the EU15 exports (45% in 2007, **Table 2.6**) and ensure a rapidly increasing surplus, clearly constitute the strength of EU15 [Curran & Zignago, 2009]. This reflects the EU15 comparative advantages in machinery, chemicals and transport equipment. At the two ends of the technology ladder (low-tech and high-tech) the EU15 records a deficit.

Table 2.6. - EU15 trade by partner and technological level, 1995-2007 (manufacturing sector)

	Low	Medium- Low	Medium- High	High	Total	Low	Medium- Low	Medium- High	High	Total
EXPORTS	2007 (%)					1995-2007 change (point of %)				
Rich	7.3	8.2	19.4	12.0	46.9	-6.9	-0.1	-3.9	+2.2	-8.7
Emerging	3.9	5.3	14.8	5.7	29.8	-0.6	+2.2	+3.3	+2.9	+7.7
Rentier	2.7	2.9	7.8	3.1	16.5	-1.1	+0.5	+2.6	+1.3	+3.3
Other	1.2	1.3	2.8	1.5	6.8	-1.0	-0.3	-1.0	+0.0	-2.3
World	15.1	17.7	44.8	22.4	100.0	-9.7	+2.4	+1.0	+6.4	0.0
IMPORTS	2007 (%)					1995-2007 change (point of %)				
Rich	4.4	6.4	17.3	16.6	44.8	-6.8	-2.0	-5.3	+0.4	-13.8
Emerging	14.4	8.1	10.4	9.0	41.8	-1.2	+2.6	+6.0	+7.0	+14.5
Rentier	0.8	5.2	1.5	0.3	7.7	-1.0	+1.1	+0.0	-0.3	-0.1
Other	2.8	1.2	0.7	1.0	5.7	-1.1	+0.1	+0.2	+0.2	-0.6
World	22.4	20.9	29.8	26.9	100.0	-10.1	+1.8	+1.0	+7.3	0.0
TRADE BALANCE	2007 (billion euros)					1995-2007 change (billion euros)				
Rich	41.7	31.8	50.4	-34.6	89.3	+20.4	+25.2	+28.3	-22.4	+51.4
Emerging	-111.0	-24.2	70.5	-28.1	-92.8	-79.8	-18.9	+37.7	-33.6	-94.7
Rentier	25.5	-21.1	81.6	35.4	121.4	+15.8	-18.0	+65.1	+30.0	+92.9
Other	-16.7	2.4	27.6	8.1	21.4	-13.2	-0.3	+13.8	+4.6	+4.9
World	-60.5	-11.0	230.1	-19.2	139.4	-56.9	-12.0	144.9	-21.4	+54.6

*See **Methodological Appendix M.A.2** for the technological level classification. Figures for total manufacturing (all technological levels) par partner may slightly differ from that in **Table 2.4** (all quality/price range) because of non elsewhere classified products which differ according the two classifications.

Source: Authors' calculations from Eurostat Comext database.

Exports to emerging economies follow the technology pattern of the EU15 global exports. The medium-high-tech sectors were also the most dynamic category and the only one in which the EU15 had a continuous trade surplus with emerging economies all over the period, while in the high-tech sectors its surplus turned into a deficit. These trends were mainly driven by changes in the sectoral composition of exports.

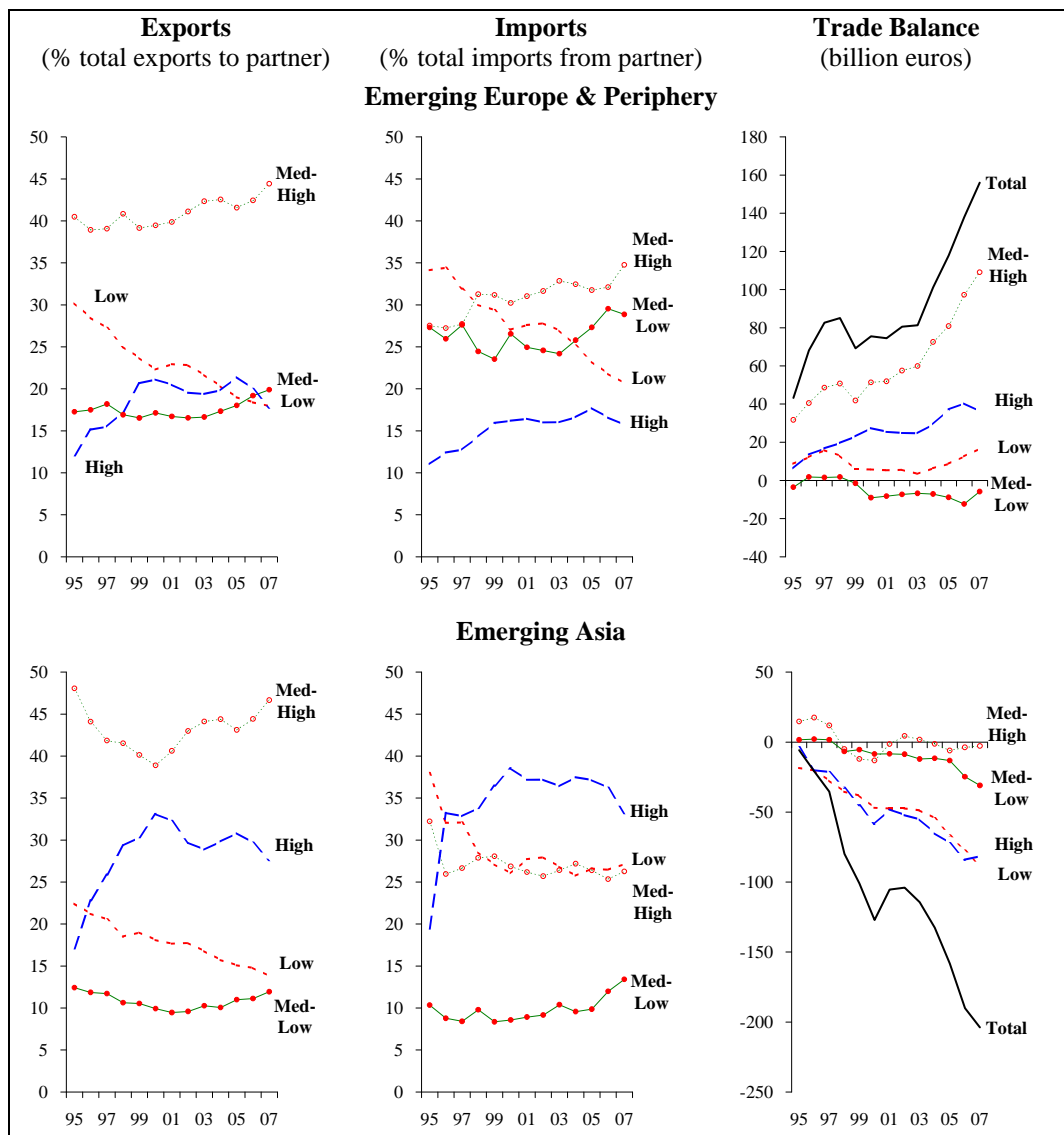
Exports to Europe & Periphery show the following trends:

- The share of low technology goods shrunk rapidly with the fall of traditional exports (textile products);
- Medium-high technological sectors remained by far the most important category with 44.4% of exports in 2007 (**Figure 2.9**). This category encompasses mainly machinery and

motor vehicles (see **Table A.1** in **Statistical Appendices**). During this period, automobile manufacturers in the EU built up strong production linkages with emerging new members and strengthened the relationship they had with Turkish firms.

- High-tech sectors took a growing importance (up to 17.7% in 2007 from 12.1% in 1995). This trend was mainly due to electronic goods and to a lesser extent to pharmaceutical products (**Table 2.7**). However, in 2007, the importance of high-tech sectors in exports to emerging Europe & Periphery remained much smaller than in exports to emerging Asia.

Figure 2.9. - EU15 trade with emerging Asia and emerging Europe & periphery by technological level (manufacturing sector)



Source: Authors' calculations from Eurostat Comext database.

Although medium-high technological sectors also dominated the EU15 exports to emerging Asia (with 45% of exports in 2007), the most remarkable trend was the rise of high-tech sectors, from 10.8% to 28% of EU15 exports. In fact, in 2007, the European high-tech sectors exported more (in value) to emerging Asia than to emerging Europe & Periphery. This is partially explained by the composition of exports of transport equipment. Most transport equipment exported to Asia belongs to aircraft industry which is classified as high-tech sector, while exports to neighbours comprise mainly vehicles, which are classified in the medium-high technological sectors. But, more generally, the breakdown of EU15 exports to Asia is skewed in favour of high-tech industries and away from low-tech industries (**Table A.2 in Statistical Appendices**). One interpretation of this bias is that technology transfer to neighbour countries tends to be made through direct investment, and there has been indeed large flows of FDI in the EU15 new members and in other neighbouring countries (Turkey). By contrast, transfer of technology to distant countries tend to be incorporated in the exported goods, because the costs of relocating production increases with the distance [Keller & Yeaple, 2009].

Table 2.7. - EU15 trade with emerging Europe & periphery: share high-tech products* by industry group 1995 to 2007 (manufacturing sector)

	2007 (%)				2007 (bn euros)	
	EXPORTS		IMPORTS		TRADE BALANCE	
	HT	Total	HT	Total	HT	Total
Energy	0,0	2,9	0,0	3,2	0,0	1,2
Food-Agriculture	-	4,9	-	7,5	-	-1,1
Textiles	-	7,0	-	16,8	-	-10,6
Wood-Paper	0,0	5,6	0,0	8,3	0,0	-0,8
Chemicals	1,0	19,7	0,3	10,3	1,7	25,8
Mining-Metallurgy	-	6,5	-	8,6	-	0,8
Machinery	0,6	20,0	0,3	11,8	0,9	24,2
Electrical machinery	0,5	5,5	0,2	6,7	0,6	1,4
Electronics	2,5	11,0	0,9	7,9	3,8	11,1
Transport equipment	0,5	17,0	0,2	18,9	0,7	7,2
Total Manufacturing	5,1	100,0	1,9	100,0	7,8	59,2
	1995-2007 change (point of %)				95-07 (bn euros)	
Energy	+0,0	+1,3	+0,0	+0,4	+0,0	+1,4
Food-Agriculture	-	-3,4	-	-1,6	-	-1,6
Textiles	-	-8,1	-	-19,8	-	-5,1
Wood-Paper	-0,1	-2,2	+0,0	-1,2	+0,0	-1,0
Chemicals	-1,3	+1,3	-0,1	-3,2	+0,9	22,6
Mining-Metallurgy		+2,7		-0,4		+2,1
Machinery	+0,2	-1,1	+0,2	+4,7	+0,8	+17,8
Electrical machinery	+0,1	+1,3	+0,2	+3,1	+0,5	+0,8
Electronics	-0,3	+5,7	+0,3	+6,5	+2,8	+9,4
Transport equipment	-1,2	+2,4	-1,2	+11,5	+0,5	+3,6
Total Manufacturing	-2,6	0,0	-0,6	0,0	+5,5	50,2

*Methodological Appendix M.A.2.

Source: Authors' calculations from Eurostat Comext database.

Using a more narrow definition of high-technology content (“high-tech products”, see **Methodological Appendix M.A.2** for this narrow definition) confirms that the share of high-tech *products* in the EU15 exports to emerging Asia (16%) was significantly larger than average (14%) and was almost three times larger than in exports to emerging Europe & Periphery (5%) (see **Table 2.7 and 2.8**).

All in all, for the European producers, emerging Asia was a less dynamic market than those which opened up in their neighbourhood. As noted in section 1 of the paper (see **Table 1.3**) emerging Europe & Periphery enlarged its share in world imports of manufactured goods slightly faster than emerging Asia did, and the EU15 industries were the best placed to take advantage of this international demand. However, Asian emerging markets have driven the EU15 exports up in the technology and quality ladders. The EU15 exports relatively more up-market goods and high-technology products to these distant markets than to emerging neighbours, despite their higher level of income. This suggests that to expand their sales to distant low-income countries, high-cost producers have to focus on high-tech and high-quality goods, the market segments in which they have the strongest comparative advantage.

2.4. EU15 imports: the effects of the regional integration processes

2.4.1. Imports from emerging Europe: technological and price/quality upgrading

From 1995 to 2007, EU15 imports from emerging Europe & Periphery have improved in terms of technological content and have climbed up the price/quality ladder. Regional integration led to a process of convergence.

The technological upgrading of imports from emerging Europe & Periphery was driven by far reaching changes in their sectoral composition. The share of low-tech sectors dropped sharply from 34.1 % to % 20.7%, which was the result of the relative decline in imports of textile products (see **Figure 2.9**).

Medium-high technology sectors were the most dynamic category and amounted to 34.8% of the total in 2007, due to the sector “transport equipment” which was one of the key driver of the EU15 imports during this period. The division of labour in this sector increased the EU15 imports of parts & components as well as of finished vehicles. In fact, the emerging new members (in central Europe) have become mainly suppliers of parts and components, while Turkey has remained mainly a supplier of finished vehicles [Lemoine & Ünal, 2009].

High-technology sector imports were also on a fast track (from 11% to 15.7%) mainly due to the rise of electronic imports (telecommunication equipment, see **Table A.1 in Statistical Appendices**).

In terms of quality ladder, imports from emerging Europe & Periphery also improved. The share of down market products fell rapidly (from 55% to 45 % in 2007) while that of high-price /quality ranges rose from 12% to 19% and that of medium-price/quality goods from

32% to 36% (see **Figure 2.8**). Imports from the emerging new EU15 members were responsible for most of this upgrading. The eastward enlargement accelerated the catch-up process of the emerging new members and strengthened their productive links with EU15 industries. The results of this productive integration are most remarkable in the quality changes of imported parts & components which shifted from down-market goods to middle- and up-market goods. This upgrading also took place in all other stages of production (see **Table A.6** in **Statistical Appendices**). The process of regional integration has thus enabled the emerging new EU members to carve their place in the value-added chain and to climb up the quality ladder. At the same time, it has also allowed the European industry to improve its competitiveness and to find rapidly expanding markets in the neighbourhood [Curran & Zignago, 2009; Fontagné & Gaulier, 2008; Sachwald, 2005].

In a sector such as electronics, the question is whether the emerging Europe's industries, thanks to their quality upgrading, have broken away from price competition from other regions, namely from Asia.

2.4.2. Imports from Asia: high-tech products at low price

For Asian exporters climbing up the technological ladder and upgrading the price-quality level of their products proved to be two distinct processes.

Between 1995 and 2007, the EU15 imports from emerging Asia recorded a fast technological upgrading, driven by a change in their commodity composition: the surge of electronic goods which amounted to 28% of imports in 2007 (up from 8% in 1995), coupled with the decline of textile products.

Imports from emerging Asia thus became increasingly skewed towards high-technology sectors, which represented the most important technology segment in 2007 with a share of 33.1% of the total (up from 19.7% in 1995, see **Figure 2.9**). The electronic sector has been at the core of an intensified international division of labour within Asia, which moved the final stages of production from mature economies to emerging ones, and namely to China [Gaulier *et alii*, 2006]. As a result, telecommunication equipment (15.8% of EU15 imports) and computers and office machinery (12.3%) have become the two most important sectors in the EU15 imports from the region in 2007 (see **Table A.2** in **Statistical Appendices**).

Considering the narrower definition of high-tech products (see **Methodological Appendix M.A.2**) confirms that emerging Asia hold a much stronger position as a supplier of technologically sophisticated goods than emerging Europe & Periphery. In 2007, 7% of Asian goods imported by the EU15 were high-tech goods against less than 2% of goods from Europe & Periphery (**Table 2.8**).

Turning to their position on the price/quality ladder, it stands out that the move of production/lines from developed countries (Japan, Taiwan, South Korea) to low-cost

economies, which has underpinned the rise of Asian emerging economies as major exporters of high-tech goods, has also ensured their price competitiveness.

**Table 2.8. - EU15 trade with emerging Asia: share of high-tech products*
by industry group 1995-2007 (manufacturing sector)**

	2007 (%)				2007 (bn euros)	
	EXPORTS		IMPORTS		TRADE BALANCE	
	HT	Total	HT	Total	HT	Total
Energy	0,0	0,3	0,0	0,7	0,0	-1,5
Food-Agriculture	-	2,6	-	3,6	-	-7,0
Textiles	-	2,4	-	20,7	-	-53,3
Wood-Paper	0,1	3,7	0,0	13,1	0,0	-31,5
Chemicals	1,1	14,4	0,6	9,0	-0,4	-9,4
Mining-Metallurgy	-	6,9	-	4,9	-	-6,3
Machinery	2,0	29,1	0,1	10,9	1,8	0,4
Electrical machinery	1,0	7,8	0,4	5,3	-0,1	-6,2
Electronics	4,2	15,0	5,6	29,1	-10,9	-63,1
Transport equipment	7,9	17,9	0,2	2,8	7,4	10,9
Total Manufacturing	16,3	100,0	7,0	100,0	-2,2	-167,0
	1995-2007 change (point of %)				95-07 (bn euros)	
Energy	+0,0	+0,0	+0,0	-0,3	+0,0	-1,2
Food-Agriculture	-	-1,2	-	-4,2	-	-4,8
Textiles	-	+0,1	-	-20,7	-	-36,9
Wood-Paper	+0,0	-0,4	+0,0	-4,7	+0,0	-25,3
Chemicals	-1,1	+0,2	-0,7	+0,6	-0,5	-9,6
Mining-Metallurgy	-	+2,1	-	+3,3	-	-6,9
Machinery	+0,1	-10,3	+0,0	+3,7	+1,3	-7,5
Electrical machinery	+0,0	+1,0	+0,2	+1,6	-0,3	-6,6
Electronics	-1,7	+7,0	+2,0	+18,2	-11,0	-61,6
Transport equipment	+2,8	+1,7	-0,3	+1,5	+6,2	+7,1
Total Manufacturing	+0,1	0,0	+1,2	-1,2	-4,2	-153,3

*Methodological Appendix M.A.2.

Source: Authors' calculations from Eurostat Comext database.

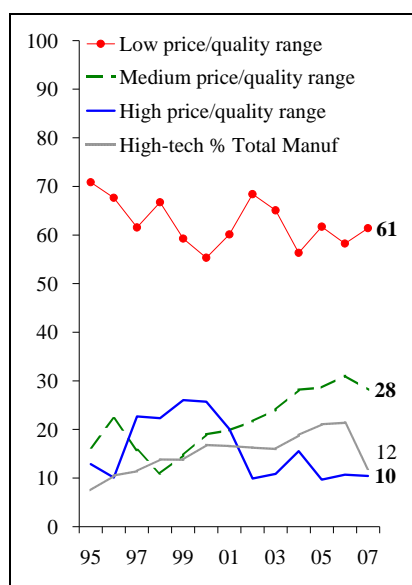
From 1995 to 2007, EU15 imports from emerging Asia remained heavily concentrated (up to 60%) in low-price/low-quality products (see **Figure 2.8**). Emerging Asia accounted for the largest and most dynamic part of the EU15 imports of low-end products, which is consistent with the finding that the price of goods is positively related to the development level of the exporter.

The rapid increase and the qualitative changes in the EU15 imports from Asian emerging economies have thus to be interpreted in the light of the reorganization of industry within the Asian region, as the firms in mature economies have offshored large parts of their production processes to emerging economies. The strong specialisation of emerging Asia in down-market goods in fact reflects mainly the position of China. Several research works have

underlined that China was specialised in the lowest segment of the market, the unit value of Chinese exports standing at about one fourth of that of Germany, and that this position did not changed dramatically between 1995 and 2004 [Fontagné *et alii*, 2008; Lemoine & Ünal-Kesenci, 2008].

Interestingly, even imports of high-tech goods (narrow definition) from emerging Asia remained heavily and steadily concentrated in low-price/low-quality segment (about 60% in 2007, **Figure 2.10**). Once again, this reflects to a large extent the special position of China in the international division of labour, which plays the role of a production hub for electronic goods [Rodrik, 2006; Zeng & Williamson, 2007].

Figure 2.10. - EU15 imports from emerging Asia: share of high-tech products* and its decomposition by quality/price range (in % of manufacturing imports)



*Methodological Appendix M.A.2.

Source: Authors' calculations from Eurostat Comext database.

The findings of this analysis underscore the crucial importance of the regional integration processes in shaping the specialisation of emerging areas in international trade. Clearly, the pattern of trade between the EU15 and emerging Europe & Periphery shows a convergence process in terms of technological and price levels, which is part of the regional integration process. By contrast, the pattern of trade between the EU15 and emerging Asia reflects the economic and geographic distance and the evolving division of labour within Asia.

3. CONCLUSION

During the past ten years, the rise of new players in international trade eroded the positions of the major trade powers, the Triad. The EU15 resisted better than the US and Japan to the reshuffling of international trade. The EU15 took advantage of its strong position in the

expanding markets of these new players, the *emerging economies* (dynamic exporters of manufactured goods or services) and the *rentier states* (exporters of commodities).

The EU15 was most successful in enhancing its exports in two directions: 1) to rentier states, which have become major markets for the European exporters since the early 2000s, and 2) to the emerging economies located in Europe & Periphery (Central or Eastern Europe, Mediterranean countries). The regional integration process and the EU15 neighbourhood policy have strengthened the effects of geographic proximity, and have opened new expanding markets to European firms. By contrast, the EU15 trade with emerging Asia shows a relatively moderate increase in exports, a fast rise in imports, and a ballooning trade deficit, which was only partially compensated by the trade surplus with emerging Europe & Periphery.

The EU15 trade with emerging economies illustrates the crucial importance of the regional integration processes in shaping the specialisation of emerging areas in international trade. There was a rapid technology and quality upgrading of the EU15 imports from emerging Europe & Periphery, as a result of the strong productive links in manufacturing industries and especially in the car industry which was the key driver of trade restructuring. Regional integration has fostered a convergence process.

The EU15 trade with emerging Asia exhibits a quite different pattern which reflects the economic and geographic distance and the evolving division of labour within Asia. Asian emerging economies enhanced their position as suppliers of high-technology at low cost. The EU15 export performance in these markets shows that the comparative advantage of a high-cost producer in its trade with low income countries lies mainly in high-technology and high-quality products.

The global economic crisis has hit all emerging countries in 2008 but the shock was the worst for the economies which were the EU15 most dynamic markets in the past ten years: rentier states and emerging neighbours. The productive and financial integration underlying the EU15 trade with emerging Europe & Periphery has created a well-built interdependence which will make it difficult to get out of the downturn without cooperation [Havrylchyk, 2009]. In emerging Asia, China and India have been more resilient to the global crisis and will provide the EU15 exporters promising markets especially for the high-technology and the up-market segments of their supply. As amply shown in the paper, the two emerging regions are heterogeneous and should be seen as complementary and not as alternative partners for European firms.

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METHODOLOGICAL APPENDICES

M.A.1. CLASSIFICATION BY INDUSTRY GROUPS AND INDUSTRIES

Industry Group	Industry (ISIC rev.3 Code)
Energy	10='Mining of coal & lignite'
	11='Extraction of crude petroleum & natural gas'
	12='Mining of uranium & thorium ores'
	23='Coke, refined petroleum products & nuclear fuel'
	40='Electricity, gas, steam & hot water supply'
Food-Agriculture	01='Agriculture, hunting'
	02='Forestry, logging'
	05='Fishing, fish farming'
	15='Food products & beverages'
	16='Tobacco products'
Textiles	17='Textiles'
	18='Wearing apparel'
	19='Leather'
Wood-Paper	20='Wood & of products'
	21='Pulp, paper & paper products'
	22='Publishing, printing & reproduction of recorded media'
	36='Furniture; manufacturing n.e.c.'
Chemicals	241='Basic chemical products'
	2423='Pharmaceutical products'
	24-(241+2423)='Other chemical products'
	25='Rubber & plastic'
	26='Non-metallic mineral products'
Mining-Metallurgy	13='Mining of metal ores'
	14='Other mining & quarrying'
	27='Basic metals'
Machinery	28='Metal products'
	29='Machinery'
Electrical machinery	31='Electrical machinery'
Electronics	30='Office machinery & computers'
	32='Radio, TV & communication equipment'
	33='Medical, precision & optical instruments'
Transport equipment	34='Motor vehicles, trailers & semi-trailers'
	35='Other transport equipment'

M.A.2. BROAD AND NARROW CLASSIFICATIONS BY TECHNOLOGICAL LEVEL

The definition of the technological content is based on indicators of technological intensity in OECD countries, such as R&D expenditures divided by value added, R&D expenditures divided by production.

On the basis of this definition, two types of classification of high-technology products can be made:

- at a broad category level: the indicators of technology content are calculated at the industry level and all the products within a high-tech industry are considered as “high-tech” products;
- at a detailed product level within a broad category.

The first methodology is the most widely used. Industries (ISIC rev.3, at 2 or 3 digit level) are classified into 4 technological levels: high-technology, medium-high-technology; medium-low-technology; and low-technology.

	Industry	ISIC rev.3 Code
High technology	Pharmaceuticals	2423
	Office, accounting and computing machinery	30
	Radio, TV and communication equipment	32
	Medical, precision and optical instruments	33
	Aircraft and spacecraft	353
Medium-High technology	Chemicals excluding pharmaceuticals	24 excl.2423
	Machinery and equipment, n.e.c.	29
	Electrical machinery and apparatus, n.e.c.	31
	Motor vehicles, trailers and semi-trailers	34
	Railroad equipment and transport equipment, n.e.c.	352+359
Medium-Low technology	Coke, refined petroleum products and nuclear fuel	23
	Rubber and plastics products	25
	Other non-metallic mineral products	26
	Basic metals and fabricated metal products	27-28
	Building and repairing of ships and boats	351
Low technology	Food products, beverages and tobacco	15-16
	Textiles, textile products, leather and footwear	17-19
	Wood, pulp, paper, paper products, printing and publishing	20-22
	Manufacturing, n.e.c.; Recycling	36-37

Source: OECD (2005).

In this classification high-technology industries include all products belonging to the high-tech industry. It has to be noted that this methodology introduces a serious selection bias, since not all products in a “high-technology industry” necessarily have a high-technology content. Likewise, some products in industries with low-technology intensity may well incorporate a high degree of technological sophistication.

The second methodology first defines large high-tech industries (as described above) and then selects, within this high-tech industries and a detailed level, the products having a high content in R&D. The definition of high-tech products used in CEPII studies refers to this second way [Fontagné *et alii*, 1999]. The nine high-tech industries that were selected in the first step were the following:

- aerospace;
- computers, office machinery;
- electronics-communications;
- pharmaceuticals;
- scientific instruments;
- electrical machinery;
- chemicals;
- other transport equipment;
- non-electrical machinery;
- weapons.

In the second step, within these broad categories, a list of 252 products (at the 6 digit level of the Harmonised System) were identified as high-tech (see Fontagné *et alii*, 1999). It has to be noted that this methodology introduces another selection bias, since it identifies the high-technology products only in the industries that are considered as high-technology: the high-technology products belonging to non technological industries are thus implicitly excluded.

The present study makes use of the two classifications.

M.A.3. CLASSIFICATION BY STAGE OF PRODUCTION

Production stages	Code BEC*	
Primary products	111	Food and beverages, primary, mainly for industry
	21	Industrial supplies n.e.s., primary
	31	Fuels and lubricants, primary
Semi-finished products	121	Food and beverages, processed, mainly for industry
	22	Industrial supplies n.e.s., processed
	322	Fuels and lubricants, processed
Parts & components	42	Of capital goods, except transport equipment
	53	Of transport equipment
Capital goods	41	Capital goods except transport equipment
	521	Other industrial transport equipment
Consumption goods	112	Food & bev., primary, mainly for household consumption
	122	Food & bev., primary, processed, for house. consumption
	51	Passenger motor cars
	522	Other non-industrial transport equipment
	61	Durable consumer goods n.e.s.
	62	Semi-durable consumer goods n.e.s.
	63	Non-durable consumer goods n.e.s.

* Broad Economic Categories of the United Nations.

Source : United Nations Statistics Division (<http://unstats.un.org/unsd/cr/registry>).

M.A.4. CLASSIFICATION BY TYPE OF TRADE

As a starting point of the method one makes the assumption that differences in prices within a product category mirror differences in quality (see Fontagné & alii, 2006). Three comments have to be made regarding such assumption: (i) it is only acceptable with the most detailed trade data, where aggregation of different products within one product category is minimised. Here we rely on eight digits of Harmonised System; (ii) second, though there are good reasons leading to slight departures from a strict association of prices with quality, trade economists are accustomed to this simplification; (iii) third, prices of traded products are not known: what is the price of “men’s or boys’ shirts of cotton, knitted or crocheted”? It is impossible to give a general answer, as each transaction has its own characteristics (such as time, place, volume, partners, and special conditions) and thus price. This is why average unit values are used instead of prices, namely the value of one ton of men’s or boys’ shirts of cotton, in this example.

Therefore we first test whether reciprocal trade flows are of an intra-industry nature (imports represent at least 10 % of exports or reciprocally); second, if the answer is positive, we test whether unit values of elementary trade flows are similar or not (up to a 15 % difference in unit values is allowed). For this second step we calculate the unit value (value/quantity) for each elementary flow at the most detailed level, then we check whether unit values are similar for each reciprocal elementary flow in order to allocate the associated trade flow to a given category of product differentiation: horizontal in case of unit value similarity, otherwise vertical. We rely on a 15% threshold (see Fontagné & alii, 2006). All calculations are made at the product, declaring country and partner levels, and the results are aggregated thereafter only.

M.A.5 CLASSIFICATION BY QUALITY/PRICE RANGE

The method to classify trade flows according to “quality/price” range relies also on elementary unit-values (see Fontagné & alii, 2006). Quality/price ranges are simply defined by percentiles in each year and for each product in the SH eight digits classification: down-market under the 33rd percentile of unit-values, up-market above the 67th percentile, middle-market in the middle of the distribution.

STATISTICAL APPENDICES

Table A.1. - EU15 trade with emerging Europe & periphery by technological level and industry (manufactured goods)

Technological level	Exports		Imports		Trade balance	
	2007	95-07 change	2007	95-07 change	2007	95-07 change
ISIC industries*	%	point %	%	point %	bn euros	bn euros
Low-tech	17.9	-12.3	20.7	-13.4	16.7	7.9
Food products	4.4	-3.6	4.2	-1.2	7.6	1.4
Tobacco	0.2	-0.1	0.1	0.1	0.5	0.0
Textiles	3.1	-3.2	3.5	-2.0	3.1	-0.5
Wearing apparel	1.9	-0.9	4.4	-6.2	-7.4	0.1
Leather & footw.	1.4	-0.8	1.2	-0.9	3.1	2.1
Wood products	1.1	0.2	1.7	0.2	-0.8	-0.4
Paper products	2.4	-1.3	1.5	-1.9	7.2	5.3
Printing & pub.	0.6	-0.9	0.4	-0.2	1.8	0.1
Furniture & n.e.c.	2.9	-1.7	3.6	-1.3	1.6	-0.1
Medium-low-tech	19.9	2.6	28.9	1.6	-5.9	-2.3
Refined petrol.	3.2	1.6	9.1	5.0	-19.2	-17.2
Rubber & plastics	3.9	0.1	3.1	0.4	9.7	6.7
Other non mineral	1.8	-0.5	1.3	-0.8	4.6	3.3
Basic metal prod.	6.4	1.7	11.4	-2.9	-10.4	-2.0
Fabricated metal	4.1	-0.1	3.4	-0.4	9.1	6.9
Ships & boats	0.5	-0.1	0.6	0.2	0.4	-0.1
Medium-high-tech	44.4	3.9	34.8	7.2	109.0	77.3
Chemicals (2410)	4.3	0.7	5.3	-1.9	3.1	5.3
Oth. chem.(24XX)	4.9	0.2	2.0	-0.5	19.7	15.2
Machinery	15.8	0.0	9.0	0.2	53.0	38.3
Elec.Machinery	5.5	1.0	6.0	1.7	6.5	4.4
Motor Vehicles	13.4	2.2	12.1	7.6	26.3	14.0
Railroad equip.	0.4	-0.2	0.4	0.1	0.6	0.0
High-tech	17.8	5.7	15.7	4.7	36.1	29.8
Pharmaceuticals	4.9	1.2	4.4	0.5	9.8	8.4
Office machinery	3.6	2.2	2.1	1.6	11.6	10.1
Radio, TV & com.	5.0	3.7	5.5	4.8	5.5	4.4
Precision instrum.	3.3	0.0	3.2	-0.8	5.8	5.1
Air- & spacecraft	0.9	-1.5	0.5	-1.4	3.4	1.8
All technology levels	100	0.0	100	0.0	156.0	112.7

*See Methodological Appendix for the classification by ISIC industries.

Source: Authors' calculations from Eurostat Comext database.

Table A.2. - EU15 trade with emerging Asia by technological level and industries (manufactured goods)

	Exports		Imports		Trade balance	
	2007	95-07 change	2007	95-07 change	2007	95-07 change
Technological level	%	point %	%	point %	bn euros	bn euros
ISIC industries*						
Low-tech	13.7	-8.9	26.8	-10.7	-88.4	-69.6
Food products	4.3	-1.9	2.3	-0.7	-0.7	-3.3
Tobacco	0.2	0.0	0.0	0.0	0.4	0.2
Textiles	1.6	-1.6	4.8	-2.2	-17.6	-13.1
Wearing apparel	1.2	-1.5	6.7	-4.2	-27.1	-18.0
Leather & footw.	1.8	-1.0	3.6	-1.7	-11.9	-8.9
Wood products	0.6	0.2	0.9	0.1	-2.9	-2.2
Paper products	1.4	-0.9	0.4	0.0	1.4	-0.4
Printing & pub.	0.3	-0.2	0.4	-0.2	-1.0	-0.9
Furniture & n.e.c.	2.4	-2.1	7.7	-1.8	-29.0	-23.1
Middle-Low-tech	12.0	-0.3	13.2	3.1	-31.4	-32.3
Refined petrol.	0.9	0.7	0.8	0.4	-1.6	-1.4
Rubber & plastics	1.6	0.1	2.8	-1.0	-8.7	-6.1
Other non mineral	1.1	-1.2	1.4	0.3	-3.8	-4.8
Basic metal prod.	5.6	1.1	4.0	2.9	-5.3	-8.3
Fabricated metal	2.3	-0.2	3.2	0.0	-8.9	-7.9
Ships & boats	0.5	-0.8	0.9	0.6	-3.1	-3.9
Middle-High-tech	46.3	-1.6	26.5	-6.2	-13.7	-24.1
Chemicals (2410)	5.6	1.4	3.7	1.1	-4.0	-5.2
Oth. chem.(24XX)	4.3	0.1	2.0	-0.2	0.8	-0.8
Machinery	21.1	-1.1	8.5	0.0	9.3	-2.5
Elec.Machinery	6.3	1.4	4.9	-0.4	-7.8	-6.7
Motor Vehicles	8.4	-3.5	6.1	-5.5	-8.1	-6.9
Railroad equip.	0.7	0.1	1.2	-1.1	-3.9	-1.9
High-tech	28.0	10.8	33.5	13.8	-86.0	-81.2
Pharmaceuticals	4.2	0.4	1.3	0.0	3.7	1.4
Office machinery	2.0	0.5	12.3	4.9	-50.3	-43.7
Radio, TV & com.	9.3	7.1	15.8	10.6	-49.3	-45.8
Precision instrum.	6.5	2.0	3.4	-1.7	-0.8	0.5
Air- & spacecraft	6.0	0.8	0.6	-0.1	10.7	6.5
All technology levels	100	0.0	100	0.0	-219.6	-207.3

*See Methodological Appendix for the classification by ISIC industries.

Source: Authors' calculations from Eurostat Comext database.

Table A.3. – EU15 trade with emerging Europe & periphery by production stage and industry group

Industry group	Exports						Imports						Trade Balance (billion euros)											
	2007 (%)						Changes 1995-2007 (point of %)						2007 (%)						Changes 1995-2007 (point of %)					
	P	SF	PC	C	K	Total	P	SF	PC	C	K	Total	P	SF	PC	C	K	Total	P	SF	PC	C	K	Total
Energy	0,1	2,8	0,0	0,0	0,0	3,0	-0,8	1,3	0,0	0,0	0,0	0,5	0,8	1,4	0,0	0,0	0,0	0,7	1,2	0,0	0,0	0,0	0,2	
Food-Agri.	1,1	0,7	0,0	4,0	0,0	5,8	-1,1	-0,8	0,0	-2,1	-0,2	-4,2	-0,1	-0,1	0,0	-1,5	0,0	-1,7	0,1	0,3	0,0	-1,5	0,1	-1,0
Textiles	0,0	4,0	0,1	2,8	0,0	6,9	0,0	-6,3	0,0	-1,1	0,0	-7,5	0,0	1,8	0,1	-7,0	0,0	-5,1	5,2	0,1	-15,9	0,0	-10,6	
Wood-Pap.	0,1	3,4	0,0	1,7	0,3	5,6	-0,1	-1,1	0,0	-0,7	-0,2	-2,0	-0,1	0,8	-0,1	-1,7	0,1	-1,1	1,4	-0,1	-2,3	0,2	-0,9	
Chemicals	0,2	12,9	0,5	5,8	0,1	19,5	-0,1	0,6	0,2	0,9	0,1	1,6	-0,2	16,0	-0,9	7,6	-0,1	22,4	9,3	-0,1	9,3	-0,1	25,4	
Metallurgy	0,6	6,4	0,0	0,0	0,0	7,0	-0,5	2,7	0,0	0,0	0,0	2,2	-0,8	2,1	0,0	0,0	0,0	1,2	0,8	0,0	0,0	0,0	-0,2	
Machinery	0,0	3,2	4,9	1,0	10,5	19,6	0,0	0,8	0,1	-0,6	-0,9	-0,5	0,0	2,1	3,0	-1,9	14,6	19,0	1,6	19,0	24,2	24,2		
Elec.Mach.	0,0	1,2	2,9	0,1	1,2	5,4	0,0	0,2	0,7	0,1	0,4	1,4	0,0	-0,4	-0,1	0,0	1,3	0,8	0,3	0,0	1,4	1,4		
Electronics	0,0	0,1	3,3	0,7	6,6	10,7	0,0	0,0	1,3	0,4	4,0	5,7	0,0	0,2	4,3	-5,6	10,6	11,6	0,2	4,8	-5,5	11,6	11,1	
Transp.Equip.	0,0	0,0	6,7	5,2	4,7	16,6	0,0	0,0	1,8	0,7	0,4	2,8	0,0	0,0	0,8	-1,3	4,2	3,1	0,0	2,3	-0,3	5,3	7,2	
Total	2,1	34,7	18,4	21,3	23,5	100,0	-2,7	-2,5	4,0	-2,4	3,6	0,0	-2,9	-3,7	11,3	-7,8	3,1	0,0	4,4	29,1	18,2	40,1	8,2	100,0
Energy	0,8	3,1	0,0	0,0	0,0	3,9	-1,2	0,4	0,0	0,0	0,0	-0,7	-0,7	1,4	0,0	0,0	0,0	0,7	1,2	0,0	0,0	0,0	0,2	
Food-Agri.	1,4	0,8	0,0	6,4	0,0	8,6	-0,7	0,0	0,0	-1,3	0,0	-2,0	-0,1	-0,1	0,0	-1,5	0,0	-1,7	0,3	0,0	-1,5	0,1	-1,0	
Textiles	0,0	2,1	0,0	13,9	0,0	16,1	-0,1	-1,0	0,0	-16,9	0,0	-18,0	0,0	1,8	0,1	-7,0	0,0	-5,1	5,2	0,1	-15,9	0,0	-10,6	
Wood-Pap.	0,2	3,8	0,1	3,7	0,3	8,1	0,1	-0,1	0,1	-0,9	0,0	-0,8	-0,1	0,8	-0,1	-1,7	0,1	-1,1	1,4	-0,1	-2,3	0,2	-0,9	
Chemicals	0,5	6,4	1,3	2,0	0,1	10,4	-0,6	-4,0	0,5	0,8	0,1	-3,3	-0,2	16,0	-0,9	7,6	-0,1	22,4	9,3	-0,1	9,3	-0,1	25,4	
Metallurgy	1,4	8,2	0,0	0,0	0,0	9,7	-0,4	-0,1	0,0	0,0	0,0	-0,5	-0,8	2,1	0,0	0,0	0,0	1,2	0,8	0,0	0,0	0,0	-0,2	
Machinery	0,0	2,9	3,9	2,3	2,3	11,3	0,0	0,3	2,1	1,4	0,9	4,7	0,0	2,1	3,0	-1,9	14,6	19,0	1,6	19,0	24,2	24,2		
Elec.Mach.	0,0	1,8	3,7	0,2	0,7	6,4	0,0	0,8	2,2	0,1	0,1	3,1	0,0	-0,4	-0,1	0,0	1,3	0,8	0,3	0,0	1,4	1,4		
Electronics	0,0	0,0	1,4	4,4	1,7	7,6	0,0	0,0	0,6	4,4	1,3	6,2	0,0	0,2	4,3	-5,6	10,6	11,6	0,2	4,8	-5,5	11,6	11,1	
Transp.Equip.	0,0	0,0	7,7	7,2	3,1	18,0	0,0	0,0	5,8	4,6	0,7	11,1	0,0	0,0	0,8	-1,3	4,2	3,7	0,0	2,3	-0,3	5,3	7,2	
Total	4,4	29,1	18,2	40,1	8,2	100,0	-2,9	-3,7	11,3	-7,8	3,1	0,0	-2,9	-3,7	11,3	-7,8	3,1	0,0	4,4	29,1	18,2	40,1	8,2	100,0

Source: Authors' calculations from Eurostat Comext database.

Table A.4. - EU15 trade with emerging Asia by production stage and industry group

Stages	P	SF	PC	C	K	Total	P	SF	PC	C	K	Total
	Industry group											
	EXPORTS											
	2007 (%)						Changes 1995-2007 (point of %)					
Energy	0.0	0.2	0.0	0.0	0.0	0.2	-0.1	0.0	0.0	0.0	0.0	-0.1
Food-Agri.	0.5	0.7	0.0	1.6	0.0	2.9	-1.2	-0.9	0.0	-0.1	0.0	-2.2
Textiles	0.0	1.5	0.1	0.5	0.0	2.1	0.0	0.1	0.0	0.1	0.0	0.1
Wood-Pap.	0.9	2.3	0.0	0.9	0.1	4.2	0.7	-0.5	0.0	0.3	-0.1	0.4
Chemicals	5.9	10.0	0.1	2.8	0.0	18.8	-2.7	0.1	0.0	0.2	0.0	-2.4
Metallurgy	3.3	6.2	0.0	0.0	0.0	9.5	2.2	1.9	0.0	0.0	0.0	4.1
Machinery	0.0	1.6	9.8	0.2	14.4	26.1	0.0	0.2	0.2	-0.2	-8.9	-8.7
Elec.Mach.	0.0	0.7	4.1	0.1	2.2	7.0	0.0	-0.3	0.7	0.0	0.5	0.9
Electronics	0.0	0.1	6.4	0.4	6.6	13.4	0.0	-0.1	4.5	0.2	1.8	6.4
Transp.Equip.	0.0	0.0	5.5	3.2	7.1	15.7	0.0	0.0	2.0	-1.1	0.7	1.5
Total	10.7	23.3	26.1	9.5	30.5	100.0	-1.1	0.5	7.2	-0.6	-6.1	0.0
	IMPORTS											
	2007 (%)						Changes 1995-2007 (point of %)					
Energy	0.4	0.6	0.0	0.0	0.0	1.0	-0.1	-0.3	0.0	0.0	0.0	-0.4
Food-Agri.	1.2	0.8	0.0	2.6	0.0	4.7	-2.4	-2.1	0.0	-1.8	0.0	-6.3
Textiles	0.0	1.9	0.0	18.2	0.0	20.2	-0.1	-3.8	0.0	-14.9	0.0	-18.9
Wood-Pap.	0.0	2.7	0.0	8.8	1.2	12.8	0.0	-1.9	0.0	-2.7	0.6	-4.0
Chemicals	0.3	5.6	0.6	2.6	0.0	9.1	-0.4	0.2	0.2	-0.2	0.0	-0.3
Metallurgy	0.6	4.8	0.0	0.0	0.0	5.4	-0.3	3.3	0.0	0.0	0.0	3.0
Machinery	0.0	2.5	2.1	2.9	3.0	10.6	0.0	1.3	1.4	-0.2	1.3	3.8
Elec.Mach.	0.0	1.4	1.6	0.4	1.8	5.1	0.0	0.4	0.8	0.0	0.6	1.8
Electronics	0.0	0.4	6.3	2.1	19.6	28.4	0.0	0.0	3.0	0.3	16.7	20.0
Transp.Equip.	0.0	0.0	1.3	0.6	0.8	2.7	0.0	0.0	0.4	0.2	0.6	1.2
Total	2.6	20.7	11.9	38.3	26.5	100.0	-3.4	-3.0	5.8	-19.3	19.9	0.0
	TRADE BALANCE (billion euros)											
	2007 (%)						Changes 1995-2007 (point of %)					
Energy	-1.0	-1.5	0.0	0.0	0.0	-2.5	-0.8	-1.2	0.0	0.0	0.0	-2.0
Food-Agri.	-2.8	-1.5	0.0	-5.5	0.0	-9.8	-1.8	-0.8	0.0	-4.1	0.0	-6.6
Textiles	0.0	-3.5	0.1	-49.9	0.0	-53.3	0.0	-1.5	0.1	-35.5	0.0	-36.8
Wood-Pap.	1.0	-4.9	0.0	-23.4	-3.3	-30.5	1.0	-3.7	0.0	-18.5	-3.1	-24.3
Chemicals	5.8	-4.0	-1.4	-3.9	-0.1	-3.6	3.5	-4.7	-1.4	-3.5	-0.1	-6.1
Metallurgy	2.1	-6.3	0.0	0.0	0.0	-4.2	2.1	-6.9	0.0	0.0	0.0	-4.8
Machinery	0.0	-5.2	5.3	-7.9	8.1	0.3	0.0	-5.1	2.6	-6.6	1.6	-7.5
Elec.Mach.	0.0	-3.0	0.1	-0.9	-2.4	-6.2	0.0	-2.8	-0.6	-0.8	-2.4	-6.6
Electronics	0.0	-0.8	-10.1	-5.5	-46.6	-63.1	0.0	-0.8	-9.3	-4.7	-46.9	-61.6
Transp.Equip.	0.0	0.0	2.8	2.0	5.8	10.5	0.0	0.0	2.1	0.8	3.9	6.8
Total	5.1	-30.7	-3.2	-95.0	-38.5	-162.3	4.0	-27.4	-6.4	-72.9	-47.0	-149.6

Source: Authors' calculations from Eurostat Comext database.

**Table A.5. - EU15 trade by price/quality range and partner
(manufactured goods)**

	EXPORTS														
	1995 (%)					2007 (%)					Changes 1995-2007 (point of %)				
	Low	Medium	High	nec	Total	Low	Medium	High	nec	Total	Low	Medium	High	nec	Total
Rich countries	12.5	18.4	23.0	1.2	55.1	9.6	17.7	17.6	2.0	46.8	-2.9	-0.7	-5.4	0.7	-8.3
Emerging countries	7.7	6.9	7.6	0.2	22.4	9.0	10.2	8.8	1.9	30.0	1.3	3.4	1.2	1.7	7.6
<i>Asia</i>	2.0	2.3	2.7	0.1	7.2	2.0	3.1	3.0	0.1	8.1	0.0	0.7	0.3	0.0	1.0
<i>Europe & Periphery</i>	3.8	3.1	3.0	0.1	10.0	5.5	5.4	4.3	1.8	16.9	1.6	2.3	1.2	1.7	6.9
<i>Other emerging</i>	1.9	1.4	2.0	0.0	5.3	1.6	1.7	1.6	0.0	5.0	-0.3	0.3	-0.3	0.0	-0.3
Rentier countries	4.6	4.2	4.5	0.1	13.4	4.9	5.7	5.6	0.2	16.4	0.3	1.5	1.1	0.1	3.0
Other countries	3.4	2.6	2.8	0.2	9.0	2.6	1.8	2.2	0.1	6.7	-0.8	-0.8	-0.6	0.0	-2.3
World	28.2	32.2	38.0	1.7	100.0	26.1	35.5	34.3	4.2	100.0	-2.1	3.3	-3.7	2.5	0.0
	IMPORTS														
	1995 (%)					2007 (%)					Changes 1995-2007 (point of %)				
	Low	Medium	High	nec	Total	Low	Medium	High	nec	Total	Low	Medium	High	nec	Total
Rich countries	18.2	18.9	19.4	0.9	57.4	12.3	15.9	13.9	2.5	44.6	-5.9	-3.0	-5.5	1.7	-12.7
Emerging countries	14.8	8.8	3.0	0.4	27.0	20.9	13.2	5.0	2.1	41.2	6.1	4.4	2.0	1.7	14.2
<i>Asia</i>	7.7	3.5	0.9	0.3	12.4	14.0	7.3	1.5	0.2	23.0	6.4	3.8	0.6	-0.1	10.6
<i>Europe & Periphery</i>	5.3	3.1	1.2	0.1	9.6	5.2	4.1	2.3	1.9	13.5	-0.1	1.0	1.1	1.8	3.8
<i>Other emerging</i>	1.8	2.2	0.9	0.1	5.0	1.7	1.8	1.2	0.0	4.8	-0.1	-0.4	0.3	0.0	-0.2
Rentier countries	2.9	3.5	2.2	0.2	8.8	2.5	3.3	1.9	0.4	8.1	-0.4	-0.1	-0.2	0.2	-0.6
Other countries	3.2	2.3	1.3	0.1	6.8	2.5	1.9	1.5	0.1	6.0	-0.6	-0.4	0.2	0.0	-0.8
World	39.1	33.5	25.9	1.6	100.0	38.2	34.4	22.3	5.1	100.0	-0.9	0.9	-3.6	3.5	0.0
	TRADE BALANCE (billion euros)														
	1995					2007					Changes 1995-2007				
	Low	Medium	High	nec	Total	Low	Medium	High	nec	Total	Low	Medium	High	nec	Total
Rich countries	-7.9	15.1	33.1	2.3	42.6	-19.3	44.8	66.9	-4.0	88.5	-11.4	29.7	33.8	-6.3	45.9
Emerging countries	-16.4	-0.2	22.2	-0.6	5.0	-127.4	-21.5	56.9	0.3	-91.7	-111.0	-21.3	34.7	0.9	-96.7
<i>Asia</i>	-17.0	-1.7	8.3	-0.6	-11.0	-139.0	-44.9	21.1	-0.8	-163.6	-122.1	-43.2	12.8	-0.2	-152.6
<i>Europe & Periphery</i>	-1.3	2.9	8.8	0.0	10.4	10.5	22.1	29.0	1.2	62.7	11.7	19.2	20.2	1.2	52.3
<i>Other emerging</i>	1.8	-1.4	5.2	0.0	5.6	1.1	1.3	6.8	-0.1	9.2	-0.7	2.8	1.6	-0.1	3.6
Rentier countries	9.7	6.4	11.9	-0.1	27.8	34.9	35.5	50.8	-2.1	119.2	25.3	29.1	39.0	-2.0	91.4
Other countries	3.9	3.5	7.5	0.4	15.3	3.9	1.0	11.7	0.5	17.1	-0.1	-2.5	4.2	0.2	1.8
World	-10.7	24.8	74.8	1.9	90.7	-107.9	59.9	186.4	-5.3	133.1	-97.2	35.1	111.7	-7.2	42.4

Source: Authors' calculations from Eurostat Comext database.

Table A.6. - EU15 trade with emerging Europe & periphery by production stage and price/quality range (manufactured goods)

Production stage	Price/ Quality	Exports		Imports		Trade balance	
		2007 (%)	1995-2007 (point of %)	2007 (%)	1995-2007 (point of %)	2007 (bn euros)	1995-2007 (bn euros)
Semi-finished products		35,5	-3,6	30,4	-5,0	28,7	+24,0
	Low	10,9	-2,7	13,1	-7,2	3,1	+4,0
	Middle	11,7	-1,1	9,9	+0,7	9,7	+7,4
	High	11,3	-1,1	6,4	+1,2	14,1	+10,7
	NEC	1,5	+1,2	1,0	+0,4	1,8	+1,8
Parts & Components		18,8	+3,7	19,0	+11,6	10,8	+7,0
	Low	6,5	+1,7	8,8	+3,5	0,3	+0,1
	Middle	6,1	+1,2	5,1	+3,8	5,3	+3,6
	High	5,5	+0,1	3,9	+3,1	5,6	+3,7
	NEC	0,7	+0,6	1,2	+1,2	-0,4	-0,4
Consumption goods		21,7	-3,2	42,0	-9,7	-17,7	-11,4
	Low	8,3	-4,0	14,1	-11,2	-3,8	-0,8
	Middle	6,5	-0,4	15,0	-5,7	-8,9	-5,2
	High	4,4	-1,1	5,9	+0,2	0,3	-0,1
	NEC	2,5	+2,3	7,0	+6,9	-5,3	-5,3
Capital goods		24,0	+3,1	8,6	+3,1	37,5	+30,7
	Low	7,3	-1,1	4,1	+0,4	9,2	+7,0
	Middle	8,6	2,1	2,3	+1,1	14,6	+12,3
	High	4,6	-1,3	1,0	+0,4	8,2	+6,0
	NEC	3,5	+3,4	1,3	+1,2	5,5	+5,5
Total		100,0	0,0	100,0	0,0	59,2	+50,2

Source: Authors' calculations from Eurostat Comext database.

Table A.7. - EU15 trade with emerging Asia by production stage and price/quality range (manufactured goods)

Production stage	Price/ Quality	Exports		Imports		Trade balance	
		2007 (%)	1995-2007 (point of %)	2007 (%)	1995-2007 (point of %)	2007 (bn euros)	1995-2007 (bn euros)
Semi-finished products		26,1	+0,2	21,3	-3,9	-30,6	-27,4
	Low	8,4	-0,7	12,5	-0,1	-25,2	-22,5
	Middle	7,1	+0,0	6,4	-1,4	-9,9	-8,7
	High	9,9	+1,2	2,0	-0,6	4,8	+3,4
	NEC	0,7	-0,2	0,4	-1,8	-0,3	+0,4
Parts & Components		29,2	+7,8	12,2	+5,7	-3,2	-6,4
	Low	5,4	-0,2	9,1	+4,3	-18,9	-18,5
	Middle	9,7	+2,9	2,4	+1,4	3,5	+2,0
	High	13,9	+5,2	0,8	+0,1	12,2	+10,1
	NEC	0,1	-0,0	0,0	-0,0	0,0	+0,0
Consumption goods		10,6	-0,8	39,3	-22,0	-95,0	-72,9
	Low	2,3	-0,9	23,9	-15,7	-62,0	-46,6
	Middle	4,4	+2,2	13,7	-4,2	-32,5	-25,7
	High	3,8	-2,2	1,6	-2,1	-0,3	-0,5
	NEC	0,2	+0,0	0,1	-0,0	-0,1	-0,1
Capital goods		34,1	-7,3	27,2	+20,2	-38,5	-47,0
	Low	8,3	-3,3	15,7	+10,7	-33,8	-35,0
	Middle	16,3	+0,5	9,2	+7,8	-8,0	-11,8
	High	9,3	-4,3	2,2	+1,6	3,5	+0,0
	NEC	0,1	-0,1	0,1	+0,0	-0,1	-0,1
Total		100,0	0,0	100,0	0,0	-167,4	-153,6

Source: Authors' calculations from Eurostat Comext database.

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