

EU's Trade with the BRICs and Competitiveness Challenges^{*}

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1 Introduction and summary

The term BRICs puts under a common label the four largest fast growing emerging countries (Brazil, Russia, India and China, see Goldman Sachs, 2003). The individual BRICs are rather heterogeneous, posing quite different challenges and calling for specific policy responses on the side of their partners. This policy oriented paper analyses the external trade in goods between the EU and the BRICs. We start with the global position of the EU and the BRICs in world trade, and move subsequently to a more detailed analysis of regional, commodity and industry-specific specialization patterns of EU-BRICs trade.

The key findings can be summarized as follows:

- the EU is the biggest world exporter; in imports it ranks second after the USA;
- the EU, USA and Japan (the Triad) have lost market shares both globally and in the markets of the BRICs;
- the EU has been relatively successful in defending its market shares;
- the EU plays a more important role in BRICs' trade than vice versa;
- the EU has trade deficits with all BRICs (with the exception of India);
- among BRICs, Russia is the most important EU export partner, China the largest import partner;
- there is a lot of diversity in EU-BRICs trade: the new member states (NMS) trading patterns differ from the rest of the EU and BRICs trading patterns also differ from each other;
- China is emerging as a serious challenge to EU's industrial competitiveness;
- technological upgrading found in Chinese manufacturing exports is to some extent the result of Triad's foreign companies operating in and exporting out of China;
- global crisis resulted in a sharp fall of BRICs' goods exports and imports in the first quarter of 2009, but signs of a recovery are already visible.

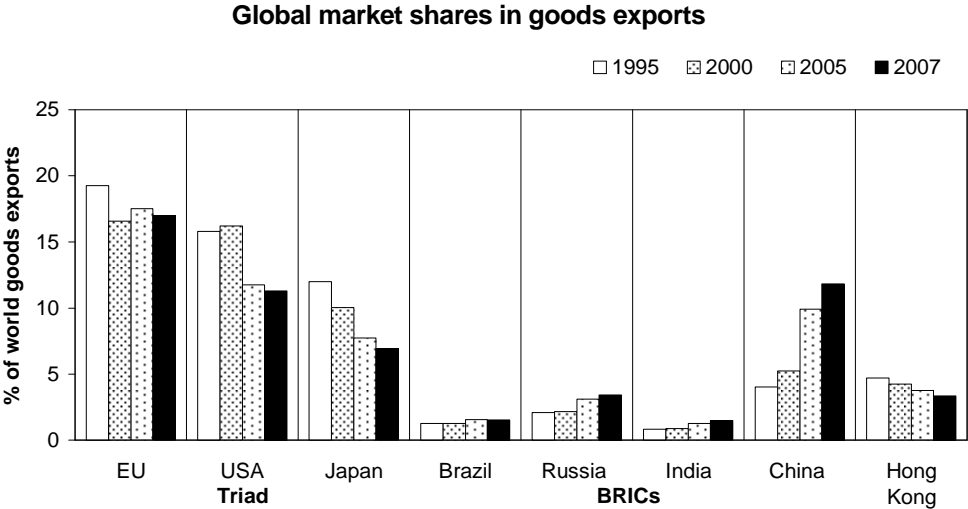
2 Global trade in goods

The EU is the world's leading exporter of goods. In 2007, extra-EU exports amounted to about 17% of total world exports. With imports of 18.1% of the world total, the EU is also the second largest importer, only closely behind the United States (18.5%). The rapid growth of Chinese exports over the past two decades has made China advance to rank two in the global list of world

^{*} An earlier and more detailed version of this paper was prepared at the request of EU DG Enterprise as a background study for the European Competitiveness Report 2009 (see Havlik et al, 2009).

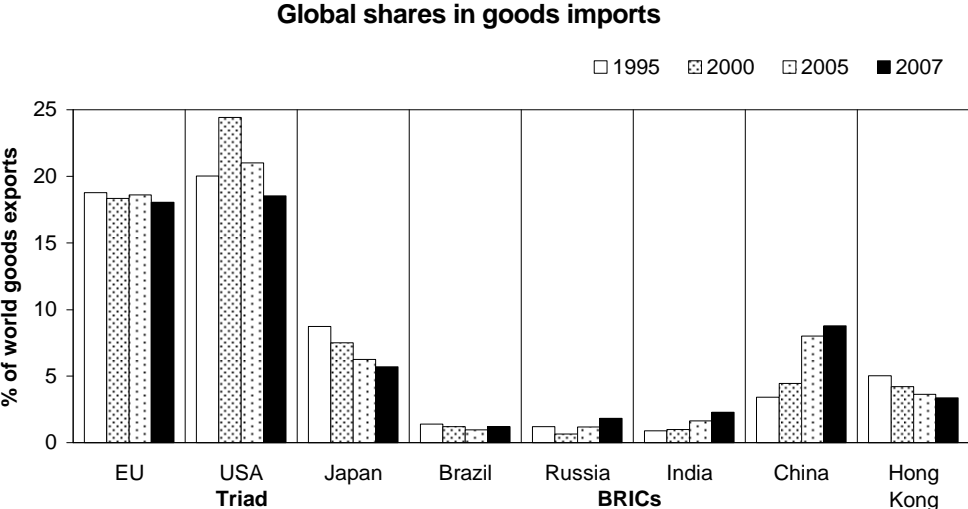
exporters (11.8% of total; including Hong Kong even 15.3%), overtaking both the USA and Japan. In terms of imports, China is still behind the EU and the USA but ahead of Japan.

Figure 1



Source: IMF, Directions of Trade, wiw calculations. Market shares based on extra-EU exports only.

Figure 2



Source: IMF, Directions of Trade, wiw calculations. Market shares based on extra-EU imports only.

Differing growth rates in exports and imports over the last two decades have caused a significant reallocation of market shares from the Triad to the BRICs.¹ Figure 1 shows that the export market shares of the Triad have all significantly decreased over the period 1995 to 2007. In the case of the EU, the share in global exports decreased from 19% in 1995 to 17% in 2007 with the strongest decline in the period 1995-2000 and a stabilization afterwards.² The decline of Triad's global market shares in goods exports of industrialized countries coincides with the emergence of new players on the world markets. These new players include all four BRIC countries. With

¹ All growth rates, market shares, etc. are calculated from nominal values due to the lack of appropriate deflators. This affects mainly Russian exports and the related trade surpluses due to fluctuating energy prices.

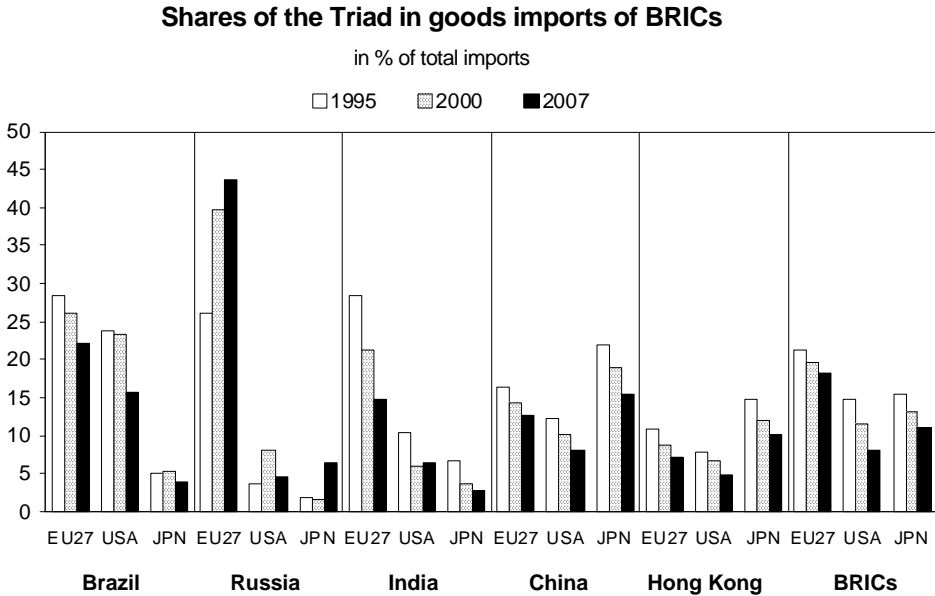
² Since the interest here is with the EU as an aggregate global export shares are calculated based on world trade excluding intra-EU trade.

regards to merchandise trade, the pre-eminent role of China as an exporter stands out. During the period 1995-2007 China's market share in global exports almost tripled, from 4% to 11.8%.

3 Bilateral trade relations Triad-BRICs

The EU's leading role in international trade also survives when bilateral relations between the Triad and the BRICs are regarded. The comparison of shares in total imports of the BRICs reveals that the EU has the highest market shares among the Triad countries – with the notable exception of China (Figure 3). In China, Japan accounts for roughly 15% of imports, compared to 12.8% of the EU (and 8% of the USA). In Russia, the EU had an impressive import market share of 44% in 2007, up from 40% in the year 2000, and far ahead of the USA and Japan. Interestingly, the EU also occupies a higher market share in Brazilian imports than the USA, with the differential in market share increasing from less than 3 pp in 2000 to approximately 6.5 pp in 2007. Both the EU and the United States experienced a decline of their market share in Brazilian imports over the 2000-2007 period which is in line with the general tendency in the BRICs. Notable exceptions are the rise of the EU's import market share in Russia and the stabilization of the US share in the India's import market.

Figure 3



Source: UN Comtrade, wiiw calculations.

It appears that the EU companies make intensive use of the trade channel to serve the markets of the BRICs and are also rather successful compared to the USA and Japan, which are less favourable positioned in most of the BRICs in terms of import market shares.

Despite falling market shares in the BRICs, their importance as trading partners for the Triad countries is on the rise – the result of much faster export and import growth rates of these countries. On the export side Russia has become the main export partner of the EU among the BRICs, absorbing 7.1% of extra-EU exports, slightly ahead even of China (5.8%). For the USA and Japan, in contrast, Russia is less significant as an export market. For them, China is the

major export destination among the BRICs. All Triad countries have in common that their shares of both exports destined for and imports from China have increased between 2000 and 2007, with a higher share occupied in imports, surpassing 20% in the case of Japanese imports (2007). In the EU and USA, imports from China have exploded, rising by 8.8 pp and 8.3 pp to reach 16.4% and 16.9% of total imports respectively (2007). On the export side, the increase of the relative importance of China as a trading partner is much less pronounced, reaching approximately 5.8% of total EU as well as total US exports. For the EU and the USA, a by-product of these developments is the increasing trade deficit, especially with China. In 2007, the bilateral trade with China and Russia contributed 84% to the total trade deficit of the EU, up from 56% in the year 2000

There are several factors contributing to China's strong export performance. One of the factors is that the Triad countries provided China with the necessary capital goods, technology and know-how to diversify and upgrade domestic industrial and export capacities. An indication for this is the very high share of capital goods in China's imports from the Triad countries, especially from the EU. The same is also true for Chinese imports from the United States (although less so for imports from Japan). A distinctive feature of Chinese trade is the high share of parts and components (P&C), particularly on the import side. The trade in P&C constitutes a deep form of economic integration because it entails the geographic separation of the production process of goods. In contrast, this form of trade integration is much less developed in Russia and also India.³ The split-up of the trade according to broad economic categories, which reflect different stages of production, also shows that China's and India's trade is characterised by a very low share of imports of consumption goods. Consumption goods only account for 4.4% of China's and 4.6% of India's aggregate goods imports. Compared to these very low shares, both China and India import relatively more consumption goods from the EU (10.7% and 6% respectively). In contrast, consumption goods are the major category in Russian imports accounting for 36% of total imports in trade with the world and only slightly less in bilateral trade with the EU.

4 Country-specific patterns of EU-BRICs trade

With a share of 17%-18% in world trade the EU is indeed a trading giant. Yet about two thirds of EU trade represent intra-EU dispatches (intra-EU exports and imports) which are *not included* in the above percentages; for the EU new member states which joined in 2004 resp. 2007 (NMS) the share of intra-EU trade is even higher (and that of BRICs correspondingly lower).⁴

Table 1 provides an overview of the overall EU trade with individual BRICs, the Triad and the rest of the world (RoW), separately for EU15 ('old' EU member states prior to 2004 enlargement) and the NMS12, during the period 2000-2008. Altogether, the BRICs accounted for just 6% of total EU exports in 2008 – less than exports to the USA (6.2%) – but their share doubled since the year 2000. The growing importance of BRICs is even more visible in EU imports: an increase of

³ For an analysis of the role of trade in parts and components in shaping Chinese trade patterns see the above quoted background paper. In a similar contrast to China, the role of intra-industry trade in Russia is extremely low – see Fertő and Soos (2008).

⁴ The rest of this section is based mainly on Eurostat Comext database. The subsequent analysis covers total EU trade (both intra- and extra) since we are interested not only in the EU as a whole but in the performance of individual EU countries (e.g. NMS relative to BRICs) as well.

import shares from 6.3% in 2000 to 11.6% in 2008, largely thanks to a growing importance of imports from China which accounts for half of EU imports from BRICs. The BRICs gained market shares in the EU mainly at the expense of the USA and Japan (especially in EU imports). Generally, EU exports to BRICs are less important than imports: the latter account for a bigger share of overall EU imports and explain also EU trade deficits.

Table 1

Overview of the total EU goods trade

Partner	EU15									Trade Balance					
	Exports			Imports			EUR bn			EUR bn					
	EUR bn			Shares			EUR bn			Shares			EUR bn		
	2000	2007	2008	2000	2007	2008	2000	2007	2008	2000	2007	2008	2000	2007	2008
Brazil	16.6	20.7	25.5	0.7	0.6	0.7	17.6	31.3	34.1	0.7	0.9	0.9	-1.0	-10.6	-8.6
Russia	19.9	74.0	85.1	0.8	2.1	2.4	45.7	109.0	126.0	1.8	3.1	3.4	-25.8	-35.0	-40.9
India	13.4	28.4	30.1	0.5	0.8	0.8	12.4	24.9	27.5	0.5	0.7	0.8	1.0	3.5	2.6
China	25.5	69.2	75.3	1.0	2.0	2.1	70.3	211.0	223.7	2.8	6.0	6.1	-44.8	-141.8	-148.4
BRICs	75.4	192.3	216.0	3.0	5.5	6.1	146.0	376.2	411.3	5.8	10.7	11.3	-70.6	-184.0	-195.3
Japan	44.9	42.5	41.0	1.8	1.2	1.1	87.1	72.0	68.3	3.5	2.0	1.9	-42.2	-29.5	-27.3
USA	232.5	253.3	241.0	9.3	7.3	6.8	199.0	175.2	179.5	7.9	5.0	4.9	33.4	78.0	61.5
RoW	477.6	675.8	710.9	19.0	19.4	19.9	513.4	685.3	739.9	20.3	19.4	20.2	-35.8	-9.5	-29.0
EU27	1677.4	2324.5	2359.8	66.9	66.6	66.1	1578.9	2223.1	2255.9	62.5	62.9	61.7	98.5	101.4	103.9
WORLD	2507.9	3488.2	3568.7	100.0	100.0	100.0	2524.5	3531.8	3654.9	100.0	100.0	100.0	-16.6	-43.5	-86.2

Partner	NMS12									Trade Balance					
	Exports			Imports			EUR bn			EUR bn					
	EUR bn			Shares			EUR bn			Shares			EUR bn		
	2000	2007	2008	2000	2007	2008	2000	2007	2008	2000	2007	2008	2000	2007	2008
Brazil	0.3	0.6	0.9	0.2	0.2	0.2	1.0	1.4	1.5	0.5	0.3	0.3	-0.8	-0.8	-0.6
Russia	2.8	15.1	20.1	1.9	3.8	4.6	18.1	35.0	47.3	9.5	7.5	9.1	-15.2	-19.9	-27.2
India	0.3	1.1	1.4	0.2	0.3	0.3	0.5	1.4	1.9	0.3	0.3	0.4	-0.2	-0.3	-0.5
China	0.4	2.7	3.1	0.2	0.7	0.7	4.4	20.6	24.0	2.3	4.4	4.6	-4.0	-17.8	-20.9
BRICs	3.7	19.5	25.5	2.5	4.9	5.8	23.9	58.3	74.7	12.6	12.5	14.4	-20.2	-38.8	-49.2
Japan	0.6	1.3	1.4	0.4	0.3	0.3	5.0	6.2	6.5	2.6	1.3	1.3	-4.4	-4.8	-5.1
USA	5.7	8.1	8.3	3.9	2.0	1.9	7.3	6.1	6.9	3.8	1.3	1.3	-1.5	2.1	1.4
RoW	19.0	56.4	64.6	12.8	14.2	14.6	23.4	54.9	63.7	12.3	11.8	12.3	-4.4	1.6	0.9
EU27	118.7	312.8	341.8	80.4	78.6	77.4	130.0	341.0	366.4	68.6	73.1	70.7	-11.4	-28.2	-24.6
WORLD	147.6	398.3	441.6	100.0	100.0	100.0	189.5	466.5	518.2	100.0	100.0	100.0	-41.9	-68.2	-76.6

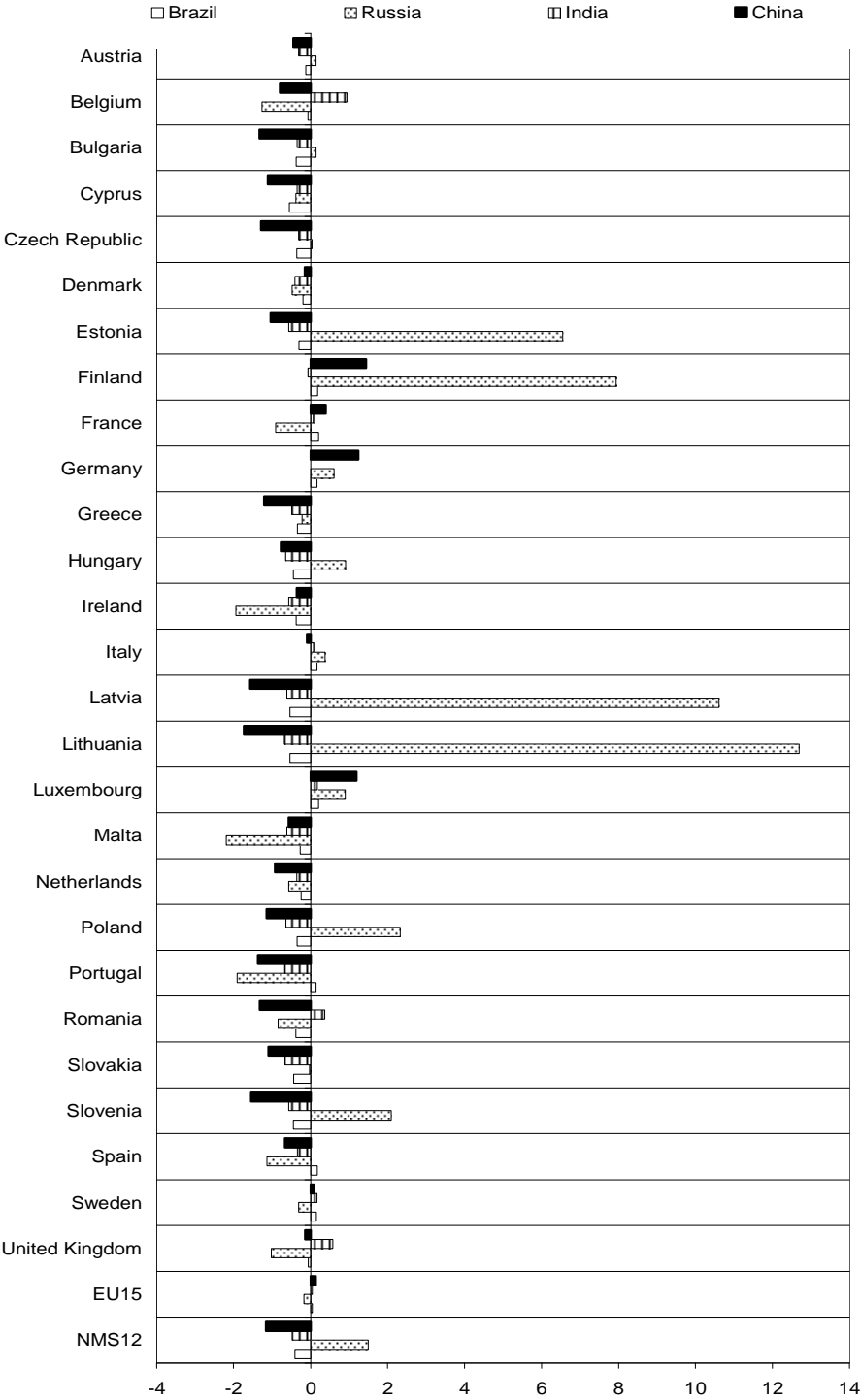
Partner	EU27									Trade Balance					
	Exports			Imports			EUR bn			EUR bn					
	EUR bn			Shares			EUR bn			Shares			EUR bn		
	2000	2007	2008	2000	2007	2008	2000	2007	2008	2000	2007	2008	2000	2007	2008
Brazil	16.9	21.3	26.3	0.6	0.5	0.7	18.7	32.7	35.5	0.7	0.8	0.9	-1.8	-11.4	-9.2
Russia	22.7	89.1	105.2	0.9	2.3	2.6	63.8	144.0	173.3	2.3	3.6	4.2	-41.0	-54.9	-68.2
India	13.7	29.5	31.5	0.5	0.8	0.8	12.8	26.3	29.4	0.5	0.7	0.7	0.8	3.2	2.1
China	25.9	71.9	78.4	1.0	1.9	2.0	74.6	231.6	247.6	2.7	5.8	5.9	-48.8	-159.6	-169.2
BRICs	79.1	211.8	241.4	3.0	5.4	6.0	169.9	434.6	485.8	6.3	10.9	11.6	-90.8	-222.8	-244.4
Japan	45.5	43.8	42.4	1.7	1.1	1.1	92.1	78.1	74.8	3.4	2.0	1.8	-46.6	-34.4	-32.4
USA	238.2	261.4	249.4	9.0	6.7	6.2	206.3	181.3	186.3	7.6	4.5	4.5	31.9	80.1	63.1
RoW	496.6	732.2	775.4	18.7	18.8	19.3	536.8	740.1	803.7	19.8	18.5	19.3	-40.2	-7.9	-28.3
EU27	1796.1	2637.3	2701.7	67.6	67.9	67.4	1708.9	2564.1	2621.9	63.0	64.1	62.8	87.2	73.2	79.8
WORLD	2655.5	3886.5	4010.3	100.0	100.0	100.0	2714.0	3998.2	4172.6	100.0	100.0	100.0	-58.5	-111.7	-162.3

Source: Eurostat-Comext, iiw calculations.

Figure 4

Diversity in EU exports to BRICs, 2007

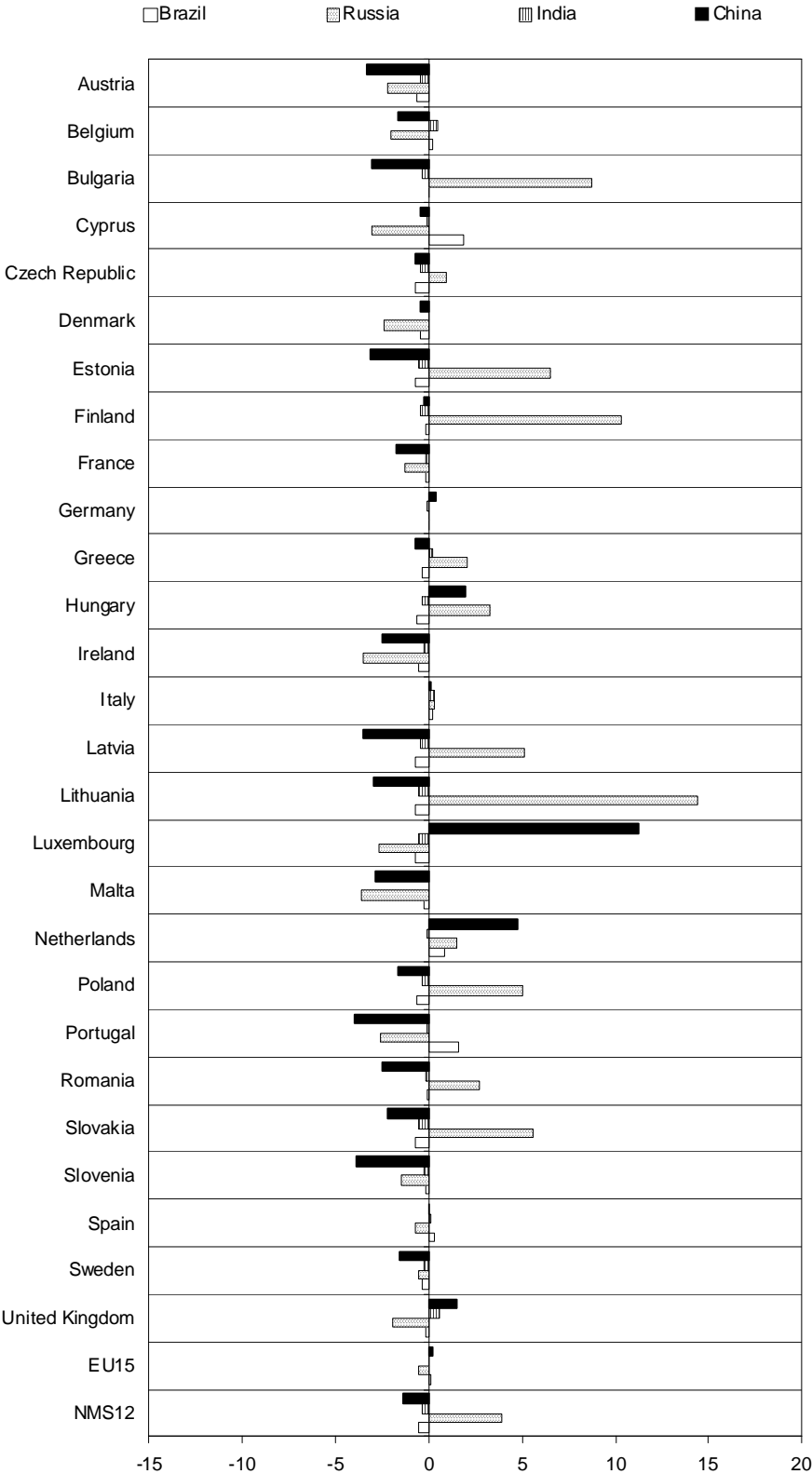
(deviations from EU average share in exports, in pp)



Source: Eurostat Comext, wiiw calculations.

Figure 5

Diversity in EU imports to BRICs, 2007
 (deviations from EU average in imports, in pp)



Source: Eurostat Comex, wiiw calculations.

EU trade with BRICs grew faster than average during the period 2000-2008, especially regarding exports to Russia and India (EU exports to Brazil were rather sluggish). Again, NMS exports

have been more dynamic than the EU average. In particular, NMS exports to China and Russia were growing rather fast. Also EU imports from the BRICs (again mainly from China and Russia) were rapidly rising with NMS' imports increasing more than EU average (Table 1). The analysis of trade statistics shows that China and Russia are the main EU trading partners among BRICs and thus represent key challenges (though, as will be shown below in more detail, both for markedly different reasons). Russia is the key EU export market and the main EU supplier of energy (especially natural gas) whereas China the largest EU supplier of manufacturing imports and thus a serious competitor. Except for India, the EU has trade deficits with all BRICs (EUR 245 billion in 2008). The largest (and rising) trade deficits have been recorded in trade with China and Russia (the latter is fluctuating in line with energy prices). The NMS have trade deficits with all BRICs and their main BRICs' trading partner has not been China (as it is the case for EU15) but Russia (with respect to both exports and imports).

In general, the NMS have been trading relatively less with the BRICs than EU15 countries do (except NMS' trade with Russia). Indeed, a higher share of BRICs in some EU countries' exports and imports results largely from their more trade exposure towards Russia (e.g. the three Baltic States, Finland, Bulgaria, Poland, Slovakia, Slovenia and Germany – see Figures 4 and 5). There is much less diversity in EU's trade exposure regarding other BRICs: Finland, Germany and Luxembourg export relatively more (than EU average) to China. Luxembourg, the Netherlands, Hungary and the United Kingdom import relatively more from China. However, the divisive role of Russia in EU member states trade is exceptional in this respect (crucial for some EU countries, negligible for others). Imports from China are relatively important for Hungary, the Netherlands and United Kingdom yet the differences with respect to other EU countries are much smaller than in the case of Russia (Figure 5).

Obviously, the above differences in relative trade exposure of individual EU member states towards individual BRIC countries have important implications for the formulation of common EU policies: EU member states with lower trade exposure have a lower stake in policy formulation regarding particular BRIC and/or may be guided less by commercial interests than by other issues (security and environmental concerns, human rights, etc).⁵

5 Sectoral composition of EU-BRICs trade

The bulk of overall EU goods exports – about 91% of the total – represent manufacturing industry products. In exports to BRICs, the EU's focus on manufacturing is even more pronounced. The only exception are exports to India where the share of manufacturing amounted to just 78% of total EU exports in 2007; exports of mining and quarrying accounted for 18.7% of the total (in 2000 even 33.6% of the total).⁶ Exports of other industries are small (e.g. agriculture, hunting and forestry: 2.6% of EU exports – mostly to Russia) or virtually non-existent.⁷

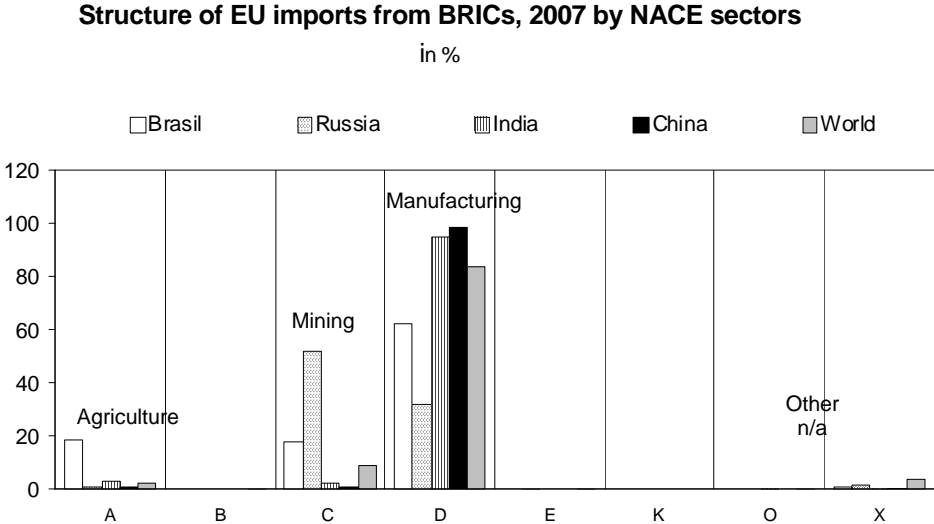
⁵ Baltic States and several other NMS may serve as an example: despite their strong trade exposure to Russia they are less prone to compromise trade for other policy issues.

⁶ These are predominantly non-energy mining products exports from Belgium (presumably diamonds).

⁷ Services are not considered in this statistics. Trade in services is much less important than trade in goods (less than 10% of EU's GDP compared with 32% of GDP in trade with goods).

EU imports from BRICs are somewhat more diversified, although manufacturing industry products prevail as well, especially in imports from India and China (Figure 6). Apart from manufacturing industry, imports of mining and quarrying products are important – in particular from Brazil (17.8% of EU imports in 2007, mostly non-energy mining products to Belgium, the Netherlands and Germany) and especially imports from Russia (52.1% of EU imports from Russia – mostly crude oil and natural gas). It is interesting to note that imports from China (and Japan) consist almost exclusively of manufacturing products; agriculture plays a more prominent role only in EU imports from Brazil (18.9% of the total – see Figure 6).

Figure 6



Note: including intra-EU trade. A-X are NACE sectors.
Source: Eurostat Comext, wiiw calculations.

There is not much difference in broader sectoral structures of NMS and EU15 trade with BRICs. However, the NMS' exports are in general even more specialized on manufacturing industry, this specialization pattern is even more pronounced in their trade with the BRICs. As far as imports are concerned, the striking feature are relatively low NMS' manufacturing imports from Russia (less than 20% of total NMS imports from Russia in 2007) and the correspondingly high share of mining and quarrying products – especially of crude oil and natural gas. This pattern did not change much in the last couple of recent years: the share of manufacturing in NMS' imports from Russia even declined between 2000 and 2007.⁸ Together with declining import shares from Brazil, this is a unique development regarding not only the structure of NMS overall imports, but also contrasting with the structure of imports from China and India.

6 Specialization patterns in manufacturing industry trade

Owing to its overwhelming role, the rest of this section will focus on EU-BRICs manufacturing industry trade. We start with the analysis of commodity composition of manufacturing exports and imports at 2-digit NACE level, and then move on to more detailed specialization patterns (at

⁸ However, at the end of 1980s – before transition – the NMS (at that time members of the Soviet-dominated Council of Mutual Economic Assistance) imported much more manufactured products from the USSR (Russia) – see Havlik, 1990). Russia complains that its declining share of manufacturing in NMS' imports is one of the adverse consequences of their EU (pre)accession trade policies and EU enlargement – see Glinkina and Kulikova in Grinberg et al (2008).

NACE 3-digit industry-group level) while trying to identify EU competitive strengths and weaknesses with respect to the BRICs. EU manufacturing trade has been fairly diversified, yet the following 3 industries (at 2-digit NACE level) play the leading role in both EU exports and imports: chemicals (NACE 24), machinery and equipment (NACE 29) and motor vehicles (NACE 34). Besides, trade with food products and beverages (NACE 15), basic metals (NACE 27) and electrical machinery (NACE 31) is also fairly important in the overall EU trade.⁹

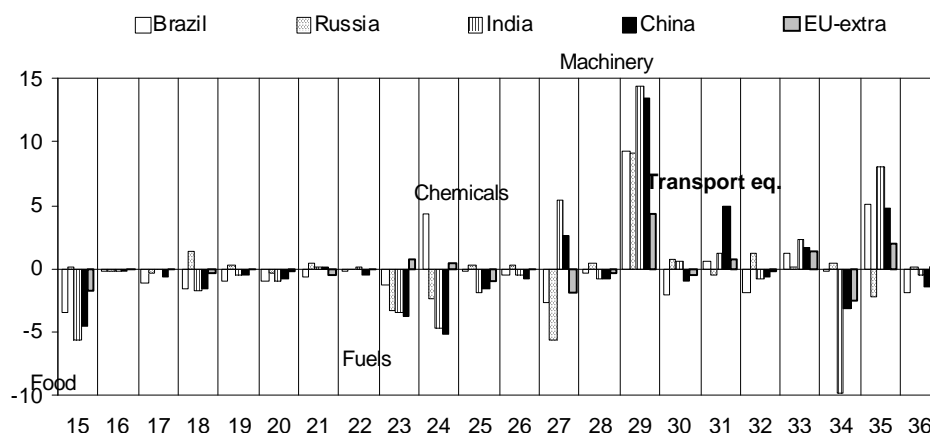
Figures 7a and 7b show the relative specialization patterns in EU's manufacturing trade with the BRICs and the rest of the world (extra-EU). In exports to BRICs, the EU is underrepresented (in terms of differences in individual industries' shares in exports to BRICs relative to the structure of overall EU exports) mainly in food products and beverages (NACE 15 – except Russia), in coke and refined petroleum (NACE 23), and in chemicals (NACE 24, except Brazil). Besides, with a difference in export share of about -10 pp, there were very little EU exports of motor vehicles (NACE 34) to India. On the other hand, the EU has a huge positive specialization (above average export shares) with regard to BRICs in exports of machinery and equipment (NACE 29 – especially to India and China), and in other transport equipment (NACE 35, except exports to Russia). China represents also an important market for EU exporters of electrical machinery and apparatus (NACE 31).

The structure of EU imports from BRICs is much more focused on just a few industries (Figure 7b; note the different scale of the two figures). Food and beverages (NACE 15) dominate EU imports from Brazil, coke and refined petroleum (fuels: NACE 23) as well as basic metals (NACE 27) EU imports from Russia (note that this is in addition to unprocessed energy products such as oil and gas). The office machinery (NACE 30) and radio, TV, communication equipment (NACE 32) dominate imports from China. EU imports from India display a relative specialization on textiles (NACE 17), wearing apparel (NACE 18) and other manufacture, including furniture, games and toys, sports goods and jewellery (NACE 36). In relative terms, EU imports much less motor vehicles from the BRICs. Already at this level of detail one can see an impressive technological upgrading of China's exports (i.e. EU imports from China) compared to other BRICs and also compared to the rest of the world (including USA and Japan); we shall illustrate this feature with more detailed arguments below.

⁹ The structure of extra-EU trade is rather similar except that extra-EU exports concentrate even more on chemicals (NACE 24), machinery and equipment (NACE 29), and other transport equipment (NACE 35) whereas extra-EU imports focus less on machinery (NACE 29), motor vehicles (NACE 34) and more on wearing apparel (NACE 18), coke and refined petroleum (NACE 23), office machinery (NACE 30) and instruments (NACE 33).

Figure 7a

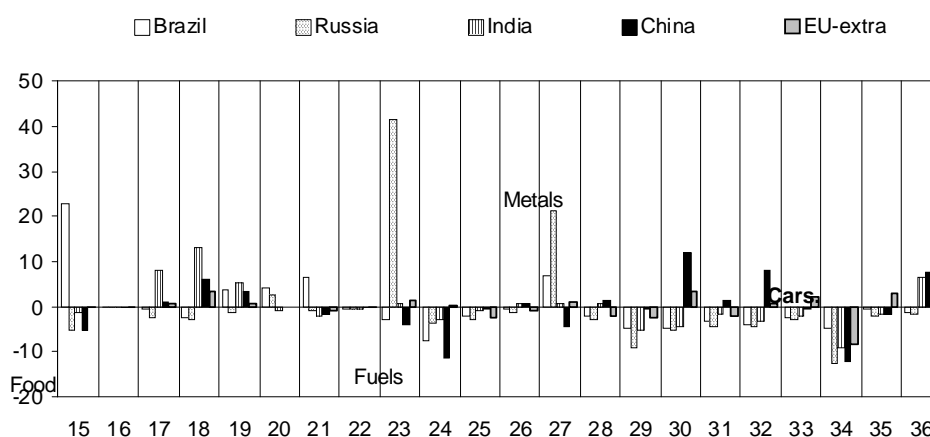
Structure of EU manufacturing exports to BRICs by NACE 2-digit industries
(differences to total exports in pp, 2007)



Source: Eurostat Comext, wiiw calculations.

Figure 7b

Structure of EU manufacturing imports from BRICs by NACE 2-digit industries
(differences to total imports in pp, 2007, note different scale)



Source: Eurostat Comext, wiiw calculations.

The analysis of EU trade at the more detailed (NACE 3-digit) level employs the classification of industries according to factor inputs (Taxonomy I) and labour skills (Taxonomy II) inputs (see Peneder, 2003).¹⁰ Figure 8a shows the structure of EU imports from BRICs, Japan, USA, the rest of the world and the EU (intra-EU trade) by industry groupings classified according to factor inputs and the shares of individual groupings in total imports (Taxonomy I).¹¹ In EU imports from Brazil (and even more so in imports from Russia) the capital-intensive industries prevail, just as labour-intensive industries prevail (though their share is diminishing) in imports from India. However, the share of this group of industries in EU imports from China is much lower whereas the technology-driven industries increasingly dominate: the share of this group of industries in EU imports from China was in 2007 already higher than in intra-EU imports. Needless to say, the

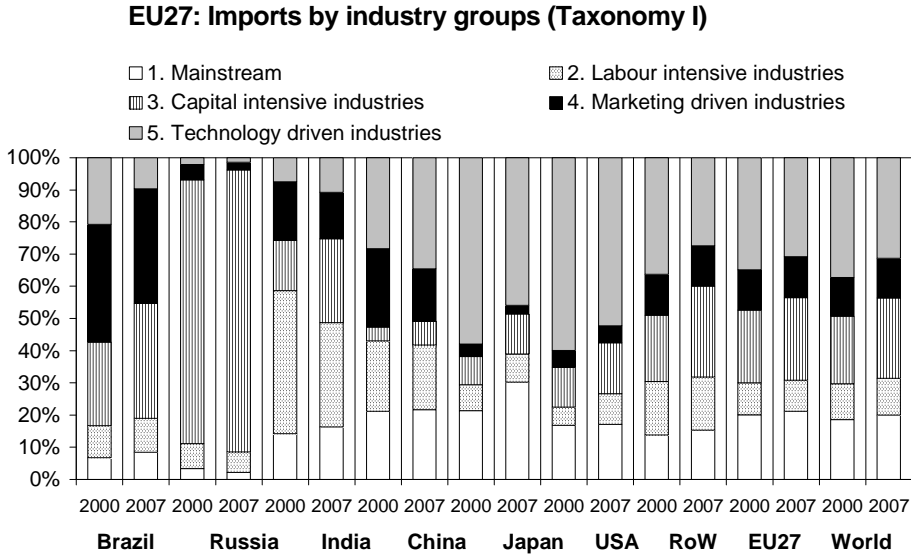
¹⁰ The list of 3-digit NACE industries and their allocation to industry groupings according to both taxonomies is in Annex.

¹¹ We do not discuss here the structures of EU exports because there are not larger differences among BRICs and other regions (technology driven, capital intensive and mainstream industries prevail in EU exports).

shares of this group of industries are even higher in EU imports from Japan and USA, but – in contrast to China – they both have declined between 2000 and 2007.

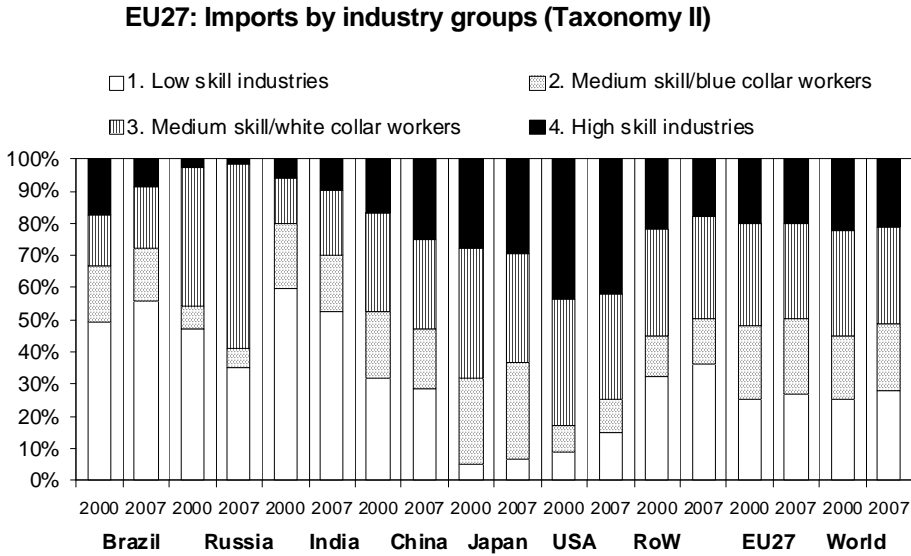
Regarding the industry classification by labour skills (Taxonomy II), the low-skill industries dominate in EU imports from Brazil and India (Figure 8b), medium-skill industries in imports from Russia (refined petroleum is included here). EU imports from China are divided into low- and medium-skill industries (both with declining shares) while the group of high-skill industries recorded rapidly rising shares between 2000 and 2007 - again providing evidence for Chinese technological upgrading. The labour skills structure of EU imports from China is becoming similar to the structure of intra-EU trade.

Figure 8a



Source: Eurostat Comext, wiiw calculations.

Figure 8b



Source: Eurostat Comext, wiiw calculations.

7 Revealed comparative advantages

The diversification and upgrading of BRICs' exports have resulted in their comparative advantage gains.¹² Although all BRICs maintain revealed comparative advantages (RCAs) in trade in labour-intensive industries,¹³ the positive RCAs are not limited to these. BRICs have comparative advantages (positive RCAs) also in marketing driven industries (except for Russia in trade with the EU and the United States and Brazil in trade with Japan; Russia's positive RCAs in marketing driven industries in trade with Japan can be largely attributed to fish product exports), which are predominantly food and beverages. In the case of China, the RCAs for 2007 already point towards a (small) comparative advantage in technology driven industries. In contrast to trade developments with other BRIC countries, the RCAs of the Triad countries are frequently shrinking in trade relations with China between 2000 and 2007; in the case of the EU this part of RCAs has already been lost. This may explain the worries about the EU's capacity to keep its competitive edge in high tech products (cf. European Commission, 2008).

The analysis shows that BRICs' trade specialization patterns are far from identical: Brazil has positive RCAs in marketing-driven (food processing) and, though less so, labour-intensive (textiles) industries (Figure 9). Russia has positive RCAs only in capital-intensive industries, mostly due to strong exports of refined petroleum and diverse metal products. This indicates that Russia was much less successful in diversifying its exports than the other BRICs. There are highly negative RCAs in mainstream and especially in technology-driven industries in Russia. Note that positive RCAs in labour-intensive industries' trade with the EU and the USA disappeared by 2007 – perhaps a consequence of the rapidly rising unit labour costs in Russia. China's RCA patterns are less pronounced, but there is a comparative disadvantage in capital-intensive industries with all Triad countries, whereas China holds positive RCAs in labour-intensive industries (e.g. wearing apparel) and marketing-driven industries (e.g. games and toys, sports goods). Chinese negative RCAs in technology driven industries are much smaller than those observed in other BRICs; comparative disadvantages in trade with the USA disappeared in this group of industries; in trade with the EU it became even positive by 2007. This feature of Chinese trade, i.e. the relative strength in exporting technology-driven industries, may be surprising but is fully in line with the literature on Chinese trade which found that China's exports are indeed technologically more advanced than its level of income would suggest (Rodrik, 2006) and that its export bundle is more similar to those of developed countries than those of

¹² The RCA analysis here is again based on industry classification by (Peneder, 2003). Not captured is the possibility that within, for example, a technology-driven industry, the labour-intensive steps of productions are located in the BRICs with the intention to re-export. UN Comtrade database is used for computing BRICs' RCAs. RCAs are calculated according to the Balassa (1965) formula:

$$RCA_{ci} = 100 \cdot \ln \left(\frac{\frac{X_{ci}}{M_{ci}}}{\frac{\sum_i X_{ci}}{\sum_i M_{ci}}} \right);$$

where X (M) are exports (imports), c denotes a partner country and i the respective industry-grouping (RCAs were calculated from individual 3-digit NACE industry trade data). Positive (negative) RCA values indicate a comparative advantage (disadvantage). The use of a different RCA version (e.g. Lafay's – see Baumann and di Mauro, 2007) would lead to similar conclusions.

¹³ Russia is an exception among BRICs in this respect since it has a comparative disadvantage also in labour-intensive industries in trade with the EU and the United States.

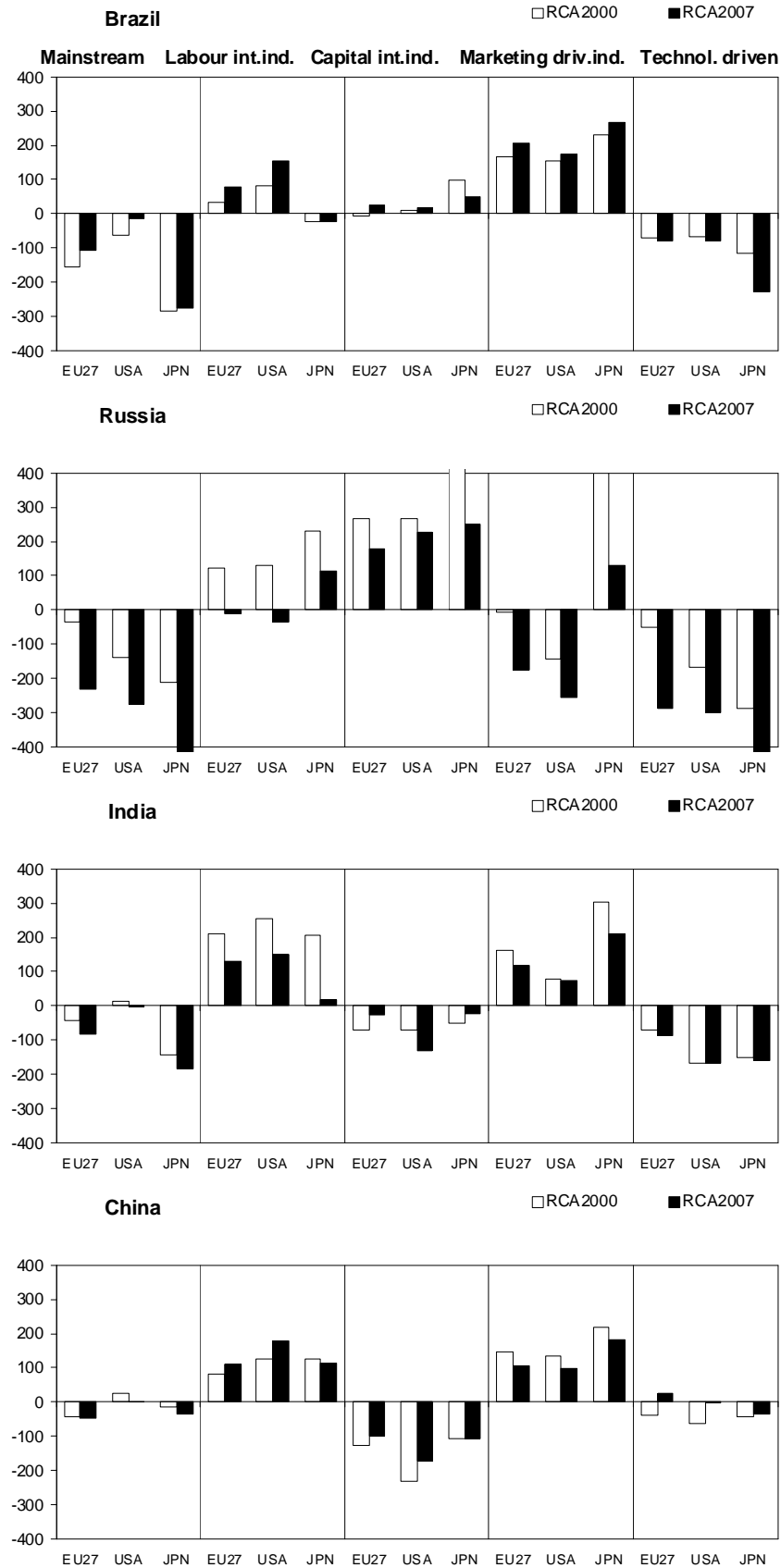
countries with similar levels of income (Schott, 2006). India's distribution of RCAs is very similar to those of Brazil (except the former slightly negative RCAs in capital-intensive industries, especially in trade with the USA).

From the EU point of view (and with the same definition of RCAs), but this time using trade data from the Eurostat Comext database), the RCA patterns in EU trade with BRICs are also rather diverse (Figure 10a and 10b). There were positive RCAs in mainstream and technology driven industries in EU trade with Brazil and India (Figure 10a). There were also positive RCAs in all industry groupings – except capital-intensive industries – in EU trade with Russia (and still an overall trade deficit). Last but not least, negative RCAs in both labour-intensive and marketing-driven industries persisted in EU trade with China. Moreover, the (small) positive RCA in technology-driven industries turned negative between the years 2000 and 2007 – another sign of Chinese technological upgrading. As shown in Figure 10b, the latter can be traced virtually in all groups of industries classified by labour skills. In contrast to other BRICs, the EU's RCAs in trade with China (and less so with India) are diminishing – this is true even for EU's positive RCAs in medium- and high-skill industries. Nevertheless, the EU still enjoyed positive RCAs in trade with BRICs in these two groups of industries – in contrast to the EU trade with both Japan and the USA where RCAs were negative.

Last but not least, we analyse also patterns of competition at EU markets by looking at changes in import prices (so-called unit value ratios – UVR – see Landesmann and Wörz, 2006) and market shares during the period 2000-2007 by the same industry groupings used above. We compare the performance of individual BRICs with Japan, USA, NMS and the EU15 on the overall EU market (consisting of both extra and intra-EU trade). It is often claimed that BRICs (especially China) compete at EU markets mainly with low prices and correspondingly low quality products (that means with below average prices and thus negative UVRs) and in this way increase their market shares. On the other hand, if both prices (positive UVRs) and market shares increase, one can speak of successful quality competition). In this purpose, we have calculated the average changes in UVRs and market shares for each country for the periods 2000-2002 and 2005-2007 in order to smooth out possible outliers. The results for selected industry groupings by Taxonomy I are shown in Figure 11a (labour-intensive and technology-driven industries) and in Figure 11b (Taxonomy II: low-skill and high-skill industries –see Annex for industry classifications).

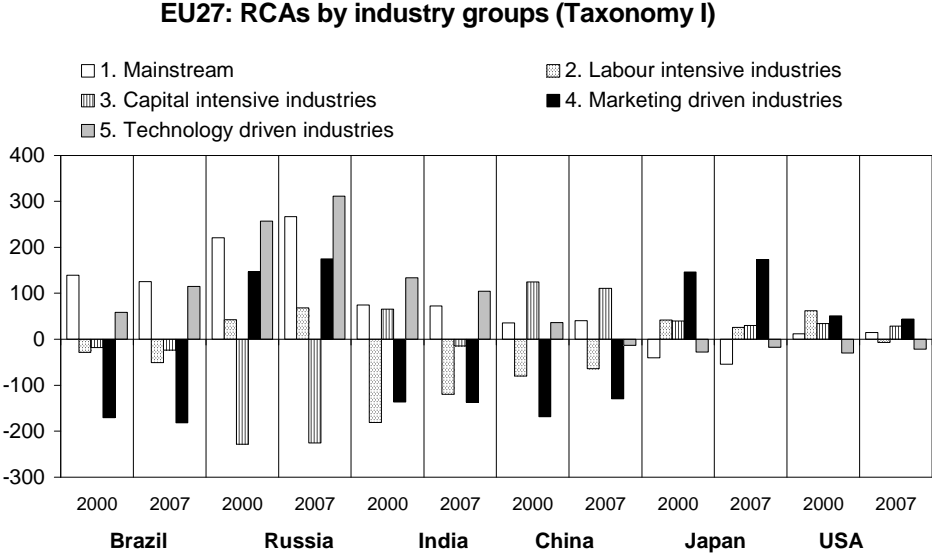
Figure 9

Revealed Comparative Advantages of the BRICs in trade with the Triad



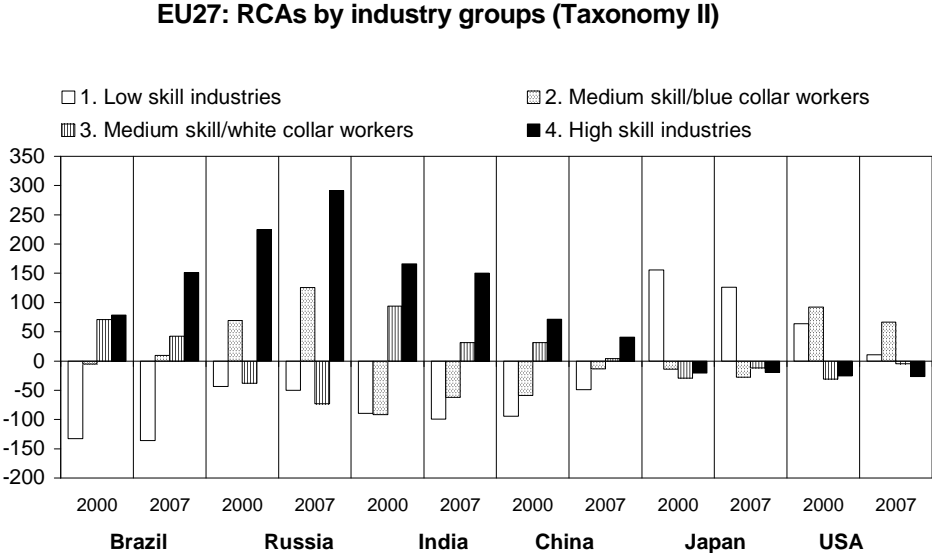
Source: UN Comtrade, wiiw calculations.

Figure 10a



Source: Eurostat Comext, wiiw calculations.

Figure 10b

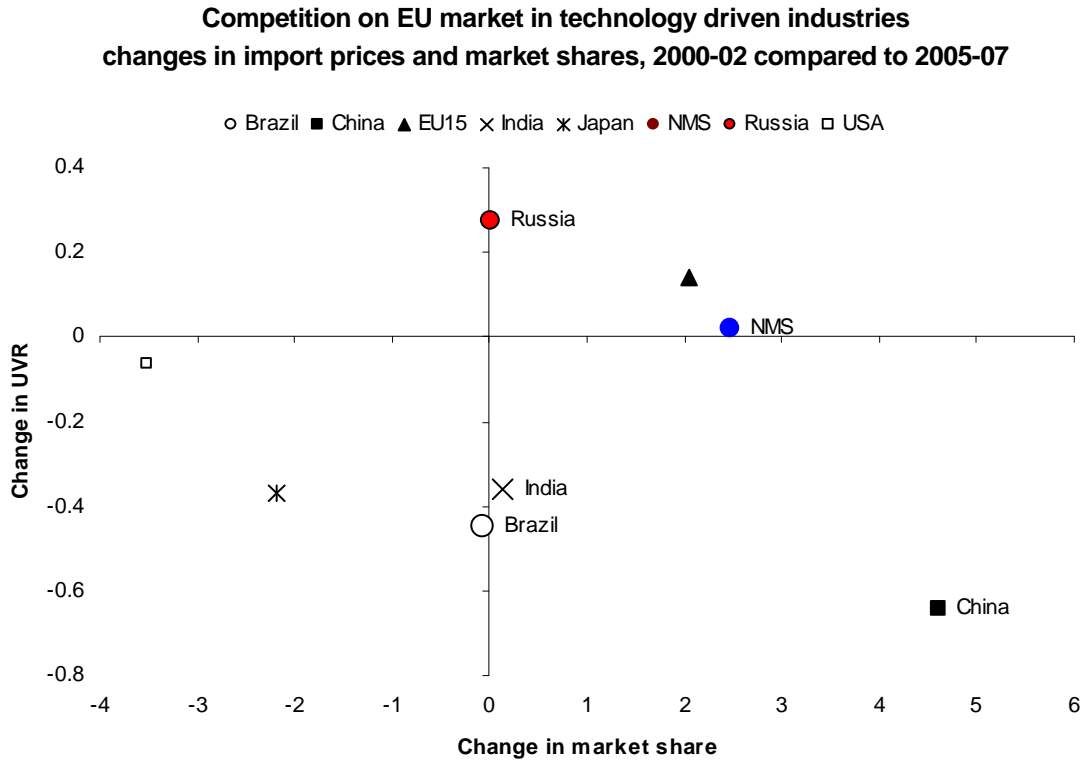
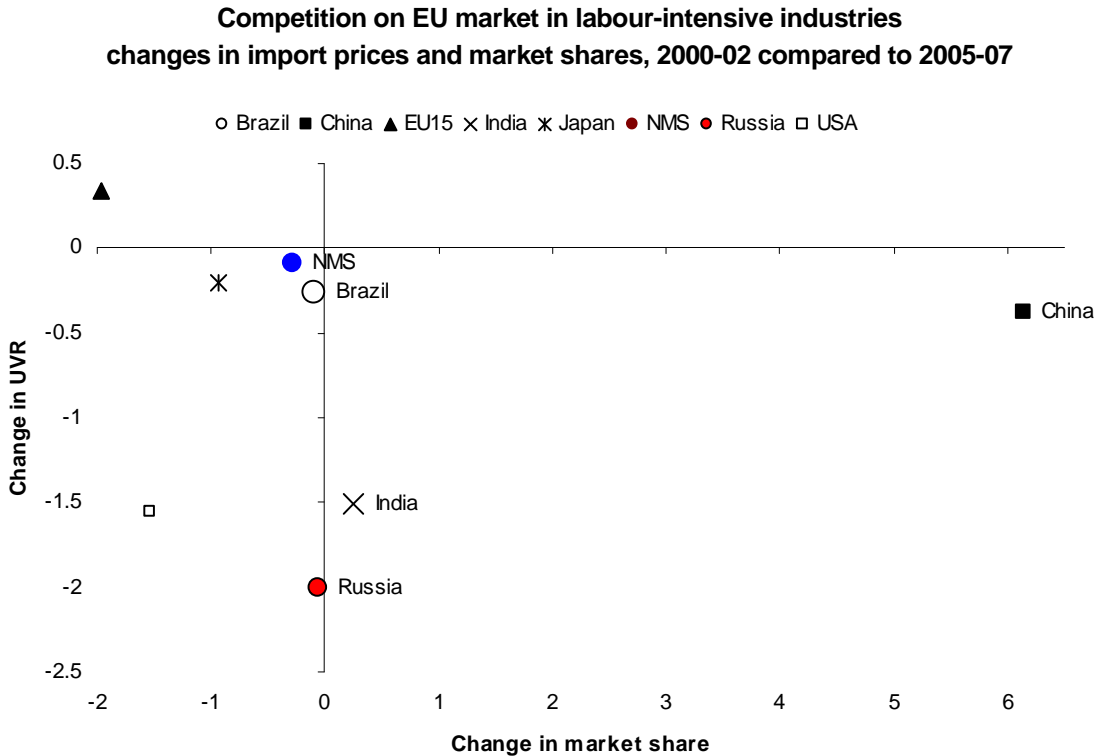


Source: Eurostat Comext, wiiw calculations.

In labour-intensive industries, there was a uniform trend of declining import prices at the EU market – except for imports from ‘old’ EU member states (EU15) where UVRs increased above average. At the same time, only China (and so India) gained market shares whereas the USA and Japan (and even more so EU15) suffered considerable market share losses. India, and even more China, gained both market shares in the EU in labour-intensive industries with a successful price competition. Brazil and Russia just kept their market shares despite falling prices of their labour-intensive exports. In technology driven industries, EU imports from the BRICs (except Russia) became also much cheaper during the period with falling UVRs, but only China enjoyed a sizeable market share gain (also the NMS recorded market share gain with unchanged UVRs). In contrast, Brazil and India’s market shares did not change, and both the USA and Japan lost

market shares, despite falling export prices, in the EU. Russia (and even more so the EU15) managed to gain market shares in the EU with rising export prices.

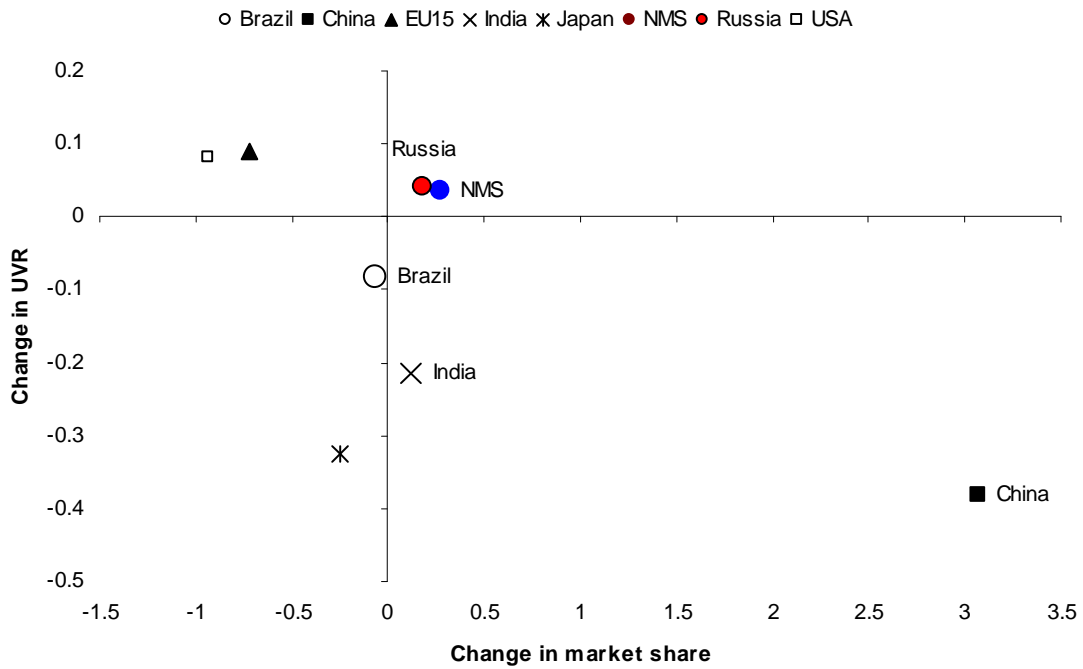
Figure 11a



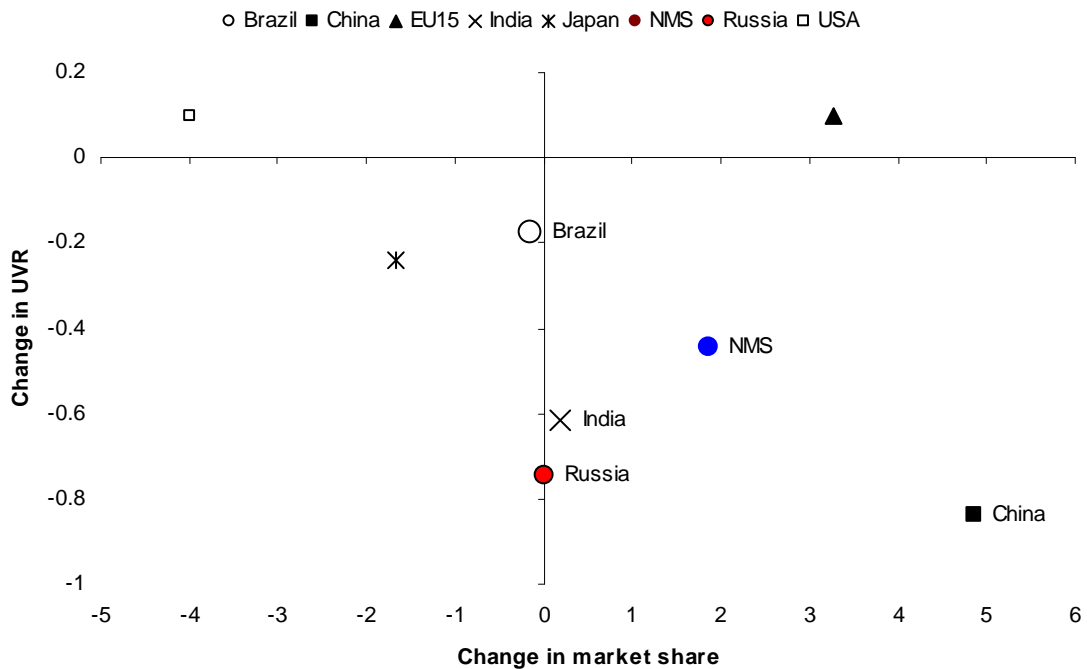
Source: Eurostat Comext, wiiw calculations.

Figure 11b

Competition on EU market in low-skill industries
changes in import prices and market shares, 2000-02 compared to 2005-07



Competition on EU market in high-skill industries
changes in import prices and market shares, 2000-02 compared to 2005-07



Source: Eurostat Comext, wiiw calculations.

China, but also India and even Russia (as well as the NMS) have been successful in the price competition also in high-skill industries and gained market shares in the EU whereas both Japan and USA lost market shares – the former despite declining export prices of its high-skill products (Figure 12b).¹⁴ China has been quite successful in the price competition on the EU market as it recorded the most impressive market share gains in virtually all industry groupings with falling UVRs. Moreover, China has been also quite successful in the technological upgrading of exports and emerges as the most serious competitive challenge for the EU.

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¹⁴ Needless to say, EU import prices from Japan and USA (as well as import prices from EU15) are much higher than average import prices in virtually all groups of industries.