

Forschungsberichte

# wiiw Research Reports | 340

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## **Structural Change and Trade Integration on EU–NIS Borders**

**May 2007**

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The present paper was prepared within the EU's Sixth Framework Programme project 'Industrial restructuring in the NIS: experience from the new EU Member States' (INDEUNIS, No. 516751).

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## **Executive summary**

*This paper investigates the process of trade integration between the enlarged European Union and the Newly Independent States (NIS), focusing on the new EU member states (NMS) and selected NIS (Russia, Ukraine, Belarus, Moldova and Kazakhstan). The paper analyses the evolution of the regional and commodity composition of trade in the countries concerned. A detailed market share analysis reveals the emerging trade specialization patterns. There has been a general trade reorientation of both NMS and (less so) the NIS towards the West. The recent trade developments on EU–NIS borders indicate a closer trade integration among the NMS, declining trade integration among the NIS, as well as contradictory shifts in NMS–NIS exports and imports. The importance of the NIS as export markets for the NMS is growing, in particular for the NIS neighbours. The bulk of EU exports is made up of manufacturing products. By contrast, EU imports from the NMS and NIS display a much more diversified pattern. The key NMS manufacturing export commodities to the NIS are chemicals, machinery & equipment, motor vehicles and food products, whereas NMS manufacturing imports from the NIS are dominated by basic metals, refined petroleum, chemicals and fabricated metal products, and there is a high concentration on just a few basic manufactures. The NMS increasingly specialize on high-tech and medium-high-tech products. The wide-ranging modernization and industrial restructuring in the NMS has been facilitated by the process of EU integration and by massive inflows of FDI whereas in the NIS the resource specialization generally increased as reforms and restructuring were delayed. It is questionable whether the NIS will be able to revamp their industrial structure without significantly stepping up reform efforts, trade integration and attracting more FDI.*

**Keywords:** *EU integration, foreign trade, EU New Member States, Newly Independent States, Russia, Ukraine, Belarus, Moldova, Kazakhstan.*

**JEL classification:** *F14, F15, F59, L60, P52.*



## **Structural change and trade integration on EU–NIS borders**

### **1 Introduction**

This paper investigates the process of trade integration between the enlarged European Union and the Newly Independent States (NIS)<sup>1</sup>, focusing on the Central and East European new EU member states (NMS) and on selected NIS (Russia, Ukraine, Belarus, Moldova and Kazakhstan). The paper analyses the evolution of the regional and commodity composition of trade in the countries concerned. A detailed market share analysis reveals the emerging trade specialization patterns of the individual countries. Because of data limitations the latter analysis focuses on the recent performance on the markets of the enlarged EU. Last but not least, the analysis allows to outline both the potential and the bottlenecks of closer trade integration of countries situated on the EU–NIS borders.

The paper is organized as follows: Section 2 provides a brief overview of recent trade developments, focusing on the period since the beginning of transition when the previous trade regime was dismantled. Section 3 analyses the newly emerged commodity trade structure in a regional breakdown between the EU and NIS markets with a focus on manufacturing industry trade. Section 4 discusses the results of a detailed ‘shift and share’ market analysis of NMS and NIS manufacturing exports. The closing Section 5 summarizes the findings and draws some conclusions regarding the future EU–NIS trade integration. The sources of data are national statistics of the countries concerned and the CIS database (CISSTAT). The more detailed commodity trade composition is analysed with data from the Eurostat Comext database, which covers the NMS as reporting countries since 1999.

### **2 NMS–NIS trade prior to and after the collapse of the previous regime**

Before turning to the analysis of more recent NMS–NIS trade patterns, it may be useful to briefly recall a few historical facts. Before the fall of communism, the regional autarky that existed in the Soviet trading bloc (the CMEA: Council for Mutual Economic Assistance) resulted in the utmost importance of mutual trade. The Soviet Union used to be the most important trading partner for the East European countries (now NMS). At the end of the 1980s, trade with the Soviet Union accounted for 20% (Poland) to more than 50% (Bulgaria) of NMS imports, its share as an NMS export market was even larger. As for the basic commodity trade patterns, the East European countries supplied machinery, industrial consumer goods and foodstuffs to the Soviet Union in exchange for fuels and energy, raw

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\* The author thanks Marek Tiits, Institute of Baltic Studies (IBS), Tartu, Estonia for valuable comments.

<sup>1</sup> The Newly Independent States of the former Soviet Union comprise Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

materials as well as considerable amounts of machinery (Havlik, 1990, p. 7). In fact, about half of Soviet exports to the 'socialist countries' (i.e. the CMEA and some developing countries) represented fuels and energy (these shares were even higher than in Soviet exports to the rest of the world); about 60% of imports consisted of machinery, equipment and industrial consumer goods. Given the peculiarities of the intra-CMEA trade mechanism (state trading monopoly, central planning, pricing, etc.) it was obvious that mutual trade would suffer after the collapse of the old system, the Soviet Union would enjoy large terms of trade gains and that both the NMS and the former Soviet republics would re-direct their trade towards the West (Havlik, 1990).

As far as the trade patterns of the former Soviet republics are concerned, the intra-Soviet trade integration was even stronger, in particular for the smaller republics (that is except Russia). One of the few studies dealing with this issue showed that in 1987 Russia exported 56% of all its (extra- and intra-Soviet) exports to other Soviet republics, while the respective shares for Ukraine, Belarus, Kazakhstan and Moldova were 80%, 84%, 86% and more than 90%. The regional import patterns were very similar (Tables 1a and 1b).<sup>2</sup> Their main trading partners outside the current NIS were the Baltic states (in particular Lithuania), Eastern Germany, Czechoslovakia, Hungary and Bulgaria. In 1987 half of extra-Soviet exports from Russia represented fuels and another 25% machinery. Ukraine's main export commodity was metallurgy (33%), fuels accounted for 25% of its extra-Soviet exports and machinery for another 18%. Belarus' extra-Soviet exports were equally distributed between fuels and machinery (about 40% each). In the case of Kazakh extra-Soviet exports, metallurgy accounted for 83% (Table 2). Using a gravity model, Vavilov and Viugin (1993) predicted that after the Soviet disintegration there would be a trade re-orientation from the Soviet market: the estimated share of the former Soviet republics in total Russian exports was expected to shrink to just 15%, that of Ukraine to 22%, of Belarus to 28% and Kazakhstan's to 21% (Table 3a). Furthermore, the authors expected that European FSU republics would 'try to join the European trade bloc while maintaining a larger share of trade with Russia', whereas Russia would likely 'diversify its external trade relations rather than join any of the existing trade blocs' (Vavilov and Viugin, 1993, p. 131).

With the benefit of hindsight, it is astonishing how accurate these predictions turned out to be. In 1990, Russia still traded about 70% of its exports with other Soviet republics (Ukraine more than 80% and Belarus 90%). By 1992, when the NIS foreign trade statistics were relaunched and trade started to recover, the overall trade volumes declined by more than half compared to 1989 in all three countries (Boss and Havlik, 1994). The share of the CIS in Russian exports amounted to just 21% (imports: 14%); the CIS' shares in Ukrainian exports were much bigger (47%, in imports 54%). The commodity composition of exports continued to be dominated by energy, fuels and metals (in Russia, Ukraine and

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<sup>2</sup> Another similar study were done by Michalopoulos and Tarr (1994).



Kazakhstan), as well as by refined fuels, chemicals and machinery in Belarus. In the NMS, basic manufactures and machinery played the key role in exports at the beginning of transition (see wiiw, 2005).

Table 1a

**Soviet Union: republic shares of total exports, 1987**

(percentages)

Exporter	Russia	Ukraine	Belarus	Kazakhstan
<b>Importer</b>				
Russia	.	53.9	49.4	52.8
Ukraine	21.5	.	15.4	6.6
Belarus	7.7	5.9	.	2.0
Kazakhstan	7.4	2.9	3.1	.
Total Soviet Union	56.5	79.5	83.7	85.9
Bulgaria	2.9	1.7	1.3	1.1
Hungary	3.3	1.9	1.5	1.0
Poland	2.8	1.7	1.4	1.0
Romania	1.7	0.9	0.7	0.5
Czechoslovakia	4.8	2.7	2.1	1.6
Yugoslavia	0.8	0.5	0.3	0.3
Total non-Soviet Union	43.6	20.5	16.3	14.1

Table 1b

**Soviet Union: distribution of imports of each republic, 1987**

(percentages)

Exporter	Russia	Ukraine	Belarus	Kazakhstan
<b>Importer</b>				
Russia	.	62.5	53.1	62.4
Ukraine	24.0	.	12.8	7.8
Belarus	9.1	5.8	.	3.4
Kazakhstan	4.8	1.3	0.9	.
Total Soviet Union	56.9	78.5	74.7	84.5
Bulgaria	3.5	1.9	2.1	1.2
Hungary	4.1	2.2	2.5	1.5
Poland	3.3	2.1	3.2	1.2
Romania	1.6	0.8	1.3	0.6
Czechoslovakia	5.7	3.3	3.9	2.2
Yugoslavia	1.0	0.7	0.5	0.3
Total non-Soviet Union	43.1	21.5	25.3	15.5

Source: Adopted from Vavilov and Viugin (1993).

Table 2

**Soviet Union: sectoral composition of exports, by republic, 1987 (percentages of total)**

Exporter	Energy and fuels		Manufacturing							Total non-agricultural	Agriculture
	Energy	Oil, coal, gas fuel	Metallurgy	Chemistry	Machinery	Wood products	Light industry	Food processing	Other		
<b>Russia</b>											
To other republics	1	29	16	8	33	4	4	2	3	100	0
To rest of world	0	51	10	5	25	6	1	1	2	100	0
Total	1	38	14	7	30	5	3	1	2	100	0
<b>Ukraine</b>											
To other republics	1	2	25	7	44	1	4	12	3	98	2
To rest of world	13	25	33	5	18	0	1	2	2	100	0
Total	3	6	27	6	39	1	3	10	3	98	2
<b>Belarus</b>											
To other republics	0	15	4	11	50	2	10	4	2	99	1
To rest of world	2	39	2	10	38	1	2	1	5	100	0
Total	1	18	4	11	48	2	9	4	2	99	1
<b>Kazakhstan</b>											
To other republics	5	26	26	9	11	0	7	4	1	90	10
To rest of world	0	0	83	2	3	0	8	2	0	99	1
Total	5	25	30	9	10	0	7	3	1	90	10

Source: Adopted from Vavilov and Viugin (1993).

Table 3a

**Soviet Union: distribution of exports of each republic  
predicted by gravity model under the full disintegration scenario**  
(percentages)

	Exporter	Russia	Ukraine	Belarus	Kazakhstan
<b>Importer</b>					
Russia		.	14.9	15.1	10.2
Ukraine		6.7	.	7.4	1.9
Belarus		2.5	2.8	.	0.7
Kazakhstan		1.1	0.4	0.4	.
Total Soviet Union		15.5	22.1	28.3	20.8
Bulgaria		0.5	0.5	0.5	0.3
Hungary		0.5	1.2	0.6	0.4
Poland		1.5	4.1	3.7	0.9
Romania		0.8	1.9	0.9	0.5
Czechoslovakia		1.0	2.1	1.1	0.7
Yugoslavia		1.0	1.2	1.1	0.7
Total non-Soviet Union		84.5	77.9	71.7	79.2

Table 3b

**Soviet Union: distribution of imports of each republic  
predicted by gravity model under the full disintegration scenario**  
(percentages)

	Exporter	Russia	Ukraine	Belarus	Kazakhstan
<b>Importer</b>					
Russia		.	16.6	16.4	11.2
Ukraine		6.3	.	7.0	1.8
Belarus		2.1	2.3	.	0.6
Kazakhstan		0.9	0.4	0.3	.
Total Soviet Union		13.1	22.2	27.6	19.6
Bulgaria		0.4	0.4	0.4	0.3
Hungary		0.4	1.0	0.5	0.3
Poland		1.3	3.6	3.2	0.8
Romania		0.6	1.5	0.7	0.4
Czechoslovakia		0.8	1.8	0.9	0.6
Yugoslavia		0.9	1.0	1.0	0.6
Total non-Soviet Union		86.9	77.8	72.4	80.4

Source: Adopted from Vavilov and Viugin (1993).

Starting in the early 1990s, a very rapid trade expansion occurred in both the NMS and the NIS.<sup>3</sup> Against the background of the overall trade growth, two new distinct trading blocs emerged. According to the World Bank, the first – and bigger one – is ‘Euro-centric’ and comprises the NMS (and the ‘old’ EU) with Southeast Europe; the second is ‘Russia-centric’, comprising the 12 NIS (Broadman, 2005).<sup>4</sup> Our estimates show that, between 1993 and 2005, NMS exports increased (in nominal euro terms) by a factor of 5.4 and imports by 4.9. During the same period, in the NMS the export coverage of imports grew from 84% (1993) to 92% (2005) which implies a reduction of the trade deficits. Among the NMS the biggest exporters are Poland (29% of NMS exports in 2005), the Czech Republic (26%) and Hungary (20%). By contrast, Russian exports increased less than 4 times in the same period (imports only 3.3 times) and, as will be shown below, even that growth resulted to a large degree from an increase in commodity prices. The dynamics of Ukrainian, Belarusian and Kazakh foreign trade was even slower (Figures 1a and 1b). Russia and Kazakhstan as resource-rich countries enjoy large (and growing) foreign trade surpluses whereas Belarus, Moldova and recently also Ukraine run trade deficits.

The overall trade developments during the past 15 years – much more dynamic in the NMS than in the NIS – have been accompanied by substantial changes in the regional trade composition. In the NMS, the outstanding feature has been the rising trade (both in volume and shares terms) with the EU. The share of the EU-15 in total trade rose from about 40-50% (the Czech Republic, Hungary, Poland and Slovakia; Slovenia more than 60%) in 1990 to 60-70% after 1995. In 2004 – after their EU accession – 70-80% of NMS trade represented intra-EU exchanges. The EU trade integration, in particular regarding NMS exports, is thus exceptionally high (Table 4).<sup>5</sup> Another interesting feature of NMS trade is the fact that recently (especially after their EU accession) intra-NMS trade has experienced a revival and mutual trade exchanges have been growing faster than average. Between 2000 and 2005, intra-NMS trade exchanges more than doubled (Figure 2). The EU accession process has thus been conducive to trade re-integration among the NMS as well.

The regional trade patterns in the NIS differ considerably from those of the NMS. The share of the CIS (NIS) in exports has been gradually declining, particularly in Ukraine and Kazakhstan as well as in Belarus (though in this country the CIS still accounts for 44% of

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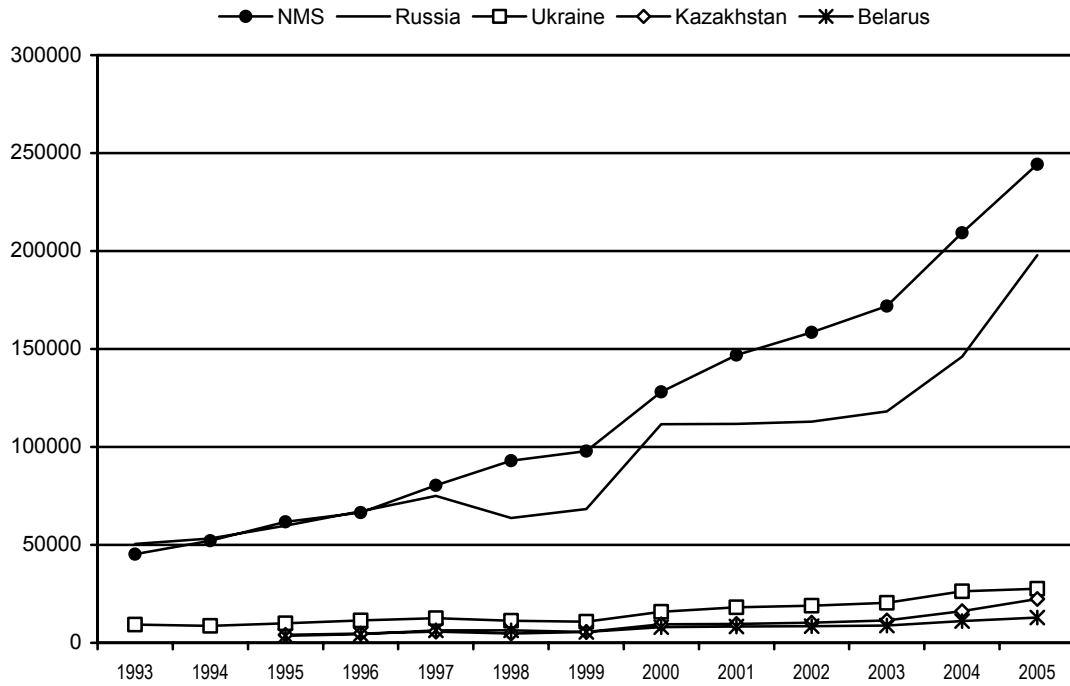
<sup>3</sup> A World Bank study estimates that NMS export and import volumes increased by the factors of 3.6 and 4.1 respectively between 1993 and 2003. Notably, NIS trade was much less dynamic (exports: 2.1, imports: 1.5 – see Broadman, 2005, p. 7).

<sup>4</sup> There are other differences between the performance of NMS and NIS. According to J. Stiglitz, the transition in the NIS essentially failed (mainly because of the botched privatization and resulting asset stripping) whereas the NMS realized a successful institutional transformation related to the EU accession process – see his speech at the EBRD 2006 Annual Meeting at <http://www.ebrd.org/new/stories/2006/060522a.htm>.

<sup>5</sup> The share of EU imports in the NMS is usually smaller since the bulk of inputs – energy in particular – is imported from the NIS (see below).

Figure 1a

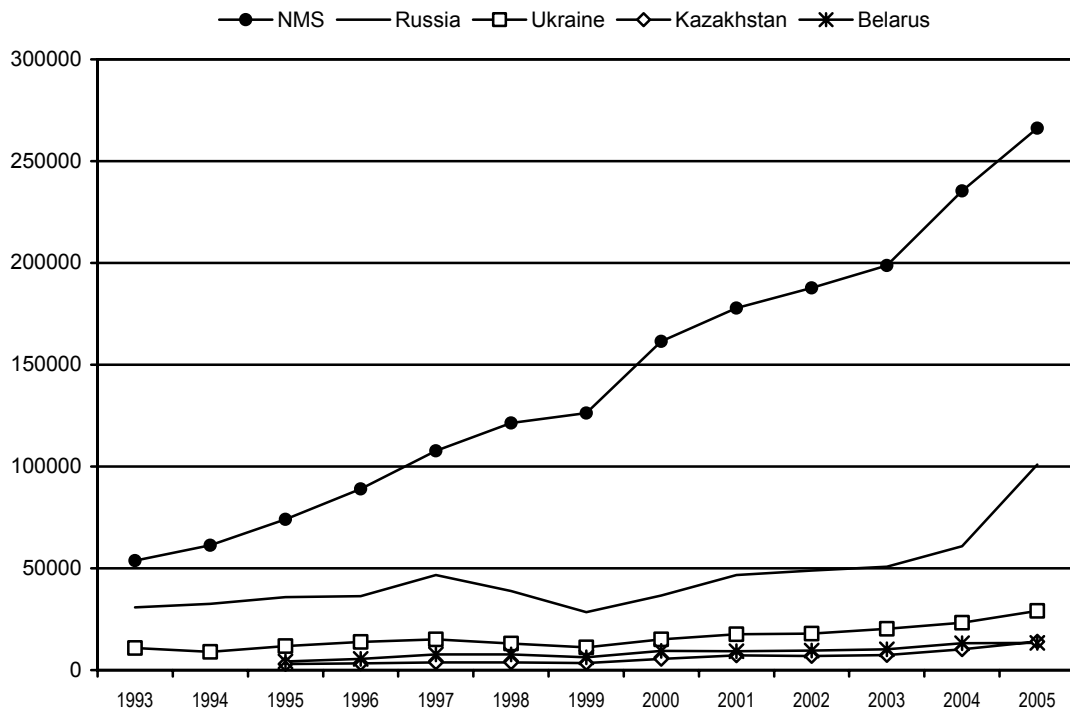
**Development of NMS and NIS exports, 1993-2005 (EUR million)**



Source: Own calculations based on wiiw and CISSTAT databases.

Figure 1b

**Development of NMS and NIS imports, 1993-2005 (EUR million)**



Source: Own calculations based on wiiw and CISSTAT databases.

total exports – Figure 3a). In Russia, the CIS accounted for less than 20% of exports during the past decade (13.5% in 2005). The importance of the CIS as a source of imports is much bigger and the decline of CIS import shares has been less pronounced over the past decade. Kazakhstan and Ukraine still receive nearly 50% of their imports from the CIS (Belarus even 66%). Clearly, the importance of the CIS market (and especially of Russia) is quite substantial for the ‘smaller’ CIS republics (in particular Belarus).<sup>6</sup> Simultaneously, the importance of the EU as an export market for the NIS has been rising (especially for Russia, Belarus and Kazakhstan – see Table 4a). It is interesting to note that the EU’s importance as an export market has been highest for Russia (44% of exports in 2004) and lowest for Ukraine (26.4%). In terms of imports, the CIS remains the key source (in particular for Belarus, though for Ukraine and Kazakhstan as well). Again, Russia is least dependent on imports from the CIS: it imports more than 40% of all its imports from the EU (Table 4b). Needless to say, the regional trade patterns of the NIS depend very much on their commodity trade composition, which is analysed in the next section.

Turning now to the recent country-specific trade developments on the EU–NIS borders (and focusing on NMS–NIS trade only) there is clear evidence of the above-mentioned closer trade integration among the NMS, of declining trade integration among the NIS (as shown in Figures 3a and 3b), as well as of perhaps contradictory shifts in NMS–NIS exports and imports. Table 5a shows the changes (in percentage points) in the shares of individual countries in their total exports during the period 2000–2004 (Table 5b shows the corresponding import share changes). As can be seen, the mutual trade among the NMS increased – especially in the case of the Baltic countries (with the exception of Lithuanian exports). The importance of the NIS as export markets for the NMS increased as well, in particular for the NIS neighbours Poland, Hungary and the Baltic states (Table 5a), largely at the expense of declining export shares of the EU-15 (see also Table 4a). Preliminary evidence suggests that this process continued in 2005. As far as the NIS are concerned, their export shares to the NMS declined during 2000–2004 (except Ukraine). Intra-NIS exports declined as well, with the exception of Russia (probably due to energy price effects). Both the NMS and the NIS are importing more from the EU border region: the shares of the NMS in the imports of all countries concerned increased (again, mostly so in the Baltic states – Table 5b). However, the importance of the NIS as a source of imports has declined in both the NMS and the NIS (the latter with the exception of Belarus). This happened despite rising commodity prices, which play a key role in NIS exports (see Section 3 below). The rising shares of intra-NMS exports and imports, as well as the declining importance of their imports from the NIS (and the drop in shares of intra-NIS trade) has a great deal to do with the commodity trade composition.<sup>7</sup>

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<sup>6</sup> The above is also valid for some other CIS republics (Georgia, Kyrgyzstan, Moldova and Turkmenistan, as well as for Tajikistan as regards imports) – see CISSTAT (2006), pp. 120–121.

<sup>7</sup> A related factor which plays an important role in these developments is the varying degree of intra-industry trade (which is much lower in the NIS – see Fertö and Soos, 2006).

Figure 2a

Foreign trade of selected NMS and NIS by regions, EUR billion

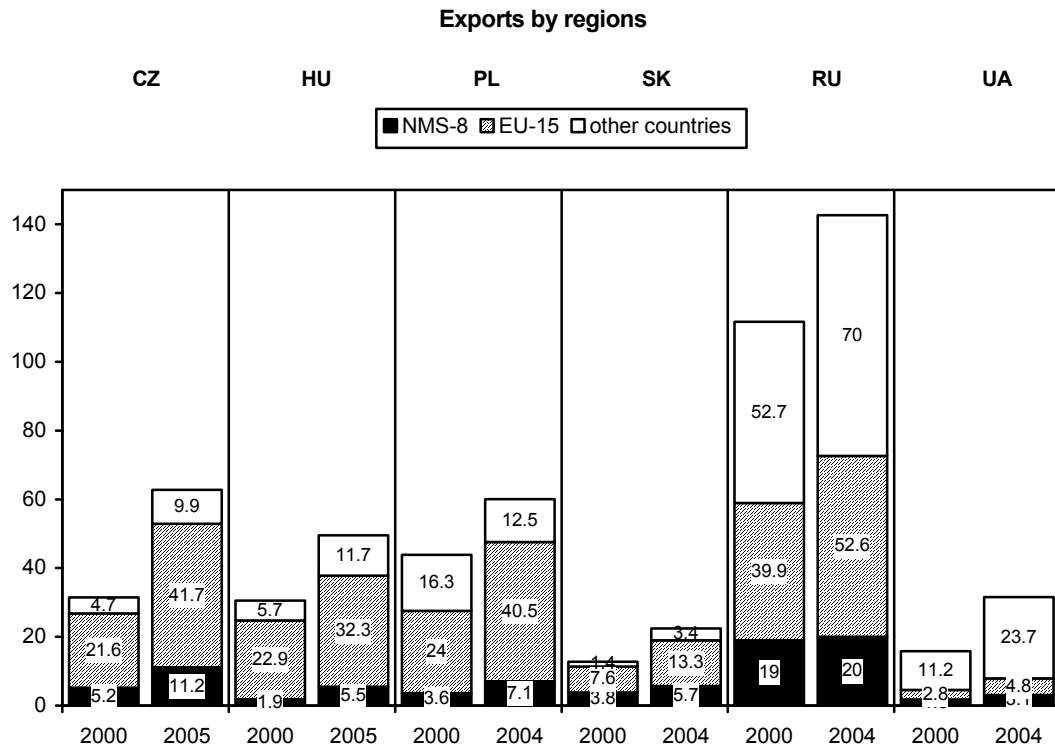
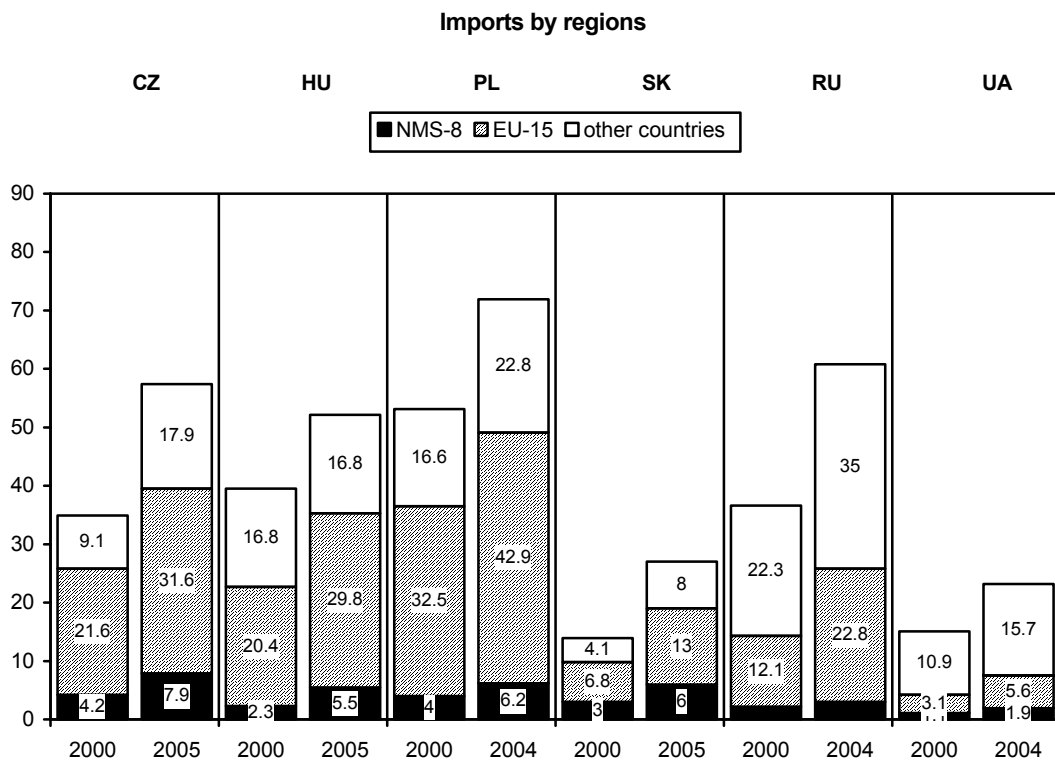


Figure 2b



Source: wiiw estimates based on national statistics; CISSTAT.

Figure 3a

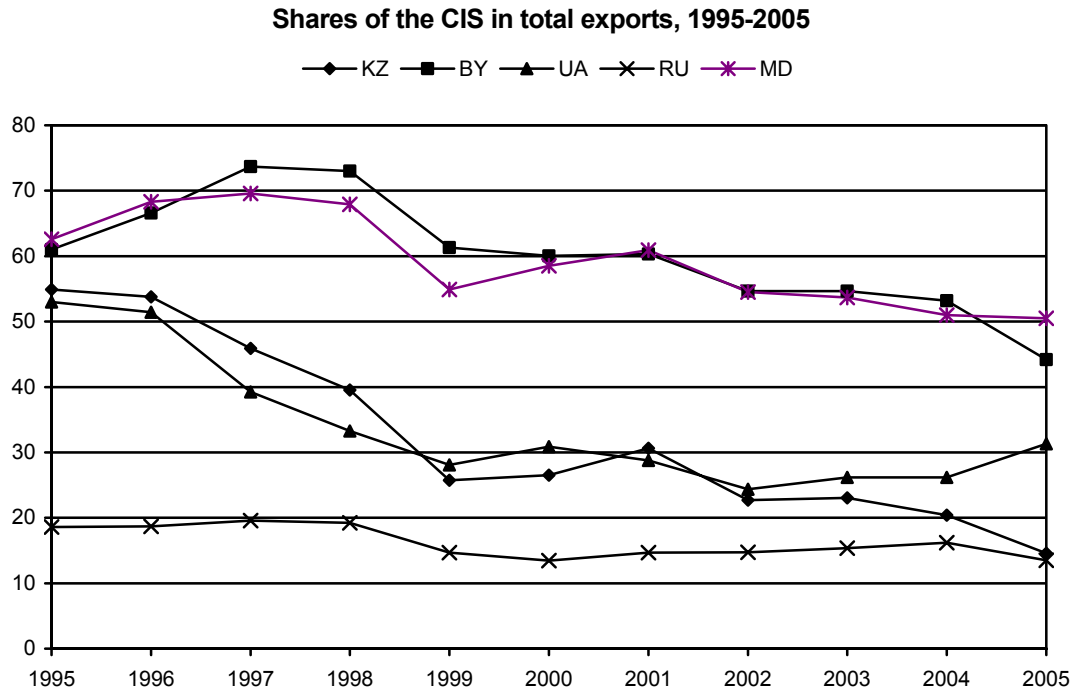
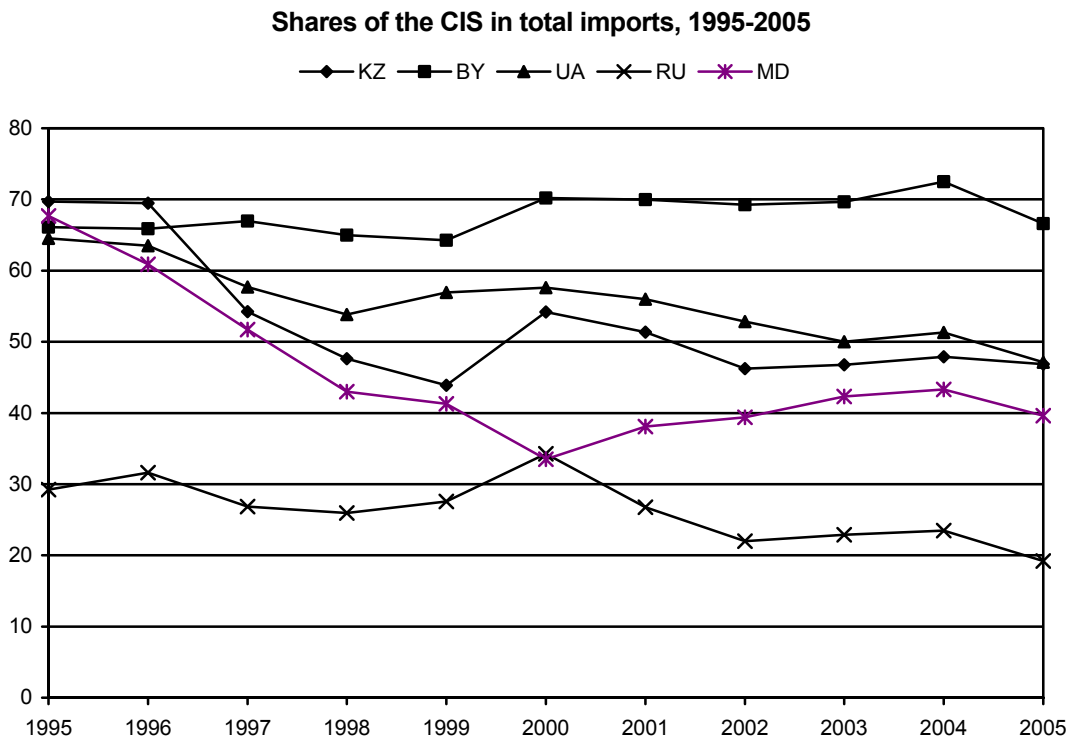


Figure 3b



Source: CISSTAT.



Table 4a

**Regional composition of NMS and NIS exports**

(in % of total)

Year	1995			2000			2004		
	EU-15	NMS-8	Other	EU-15	NMS-8	Other	EU-15	NMS-8	Other
<b>NMS-8</b>									
Czech Republic	60.5	21.9	17.6	68.6	16.4	15.0	68.3	17.6	14.1
Estonia	55.6	13.4	31.0	76.5	11.5	12.0	62.3	17.7	20.0
Latvia	44.1	12.1	43.8	64.6	16	19.4	54.9	22.6	22.5
Lithuania	36.4	14.1	49.5	50.3	24.3	25.4	45.3	21.2	33.5
Hungary	62.7	8.4	28.9	75.1	6.2	18.7	70.8	8.6	20.6
Poland	70.0	6.8	23.2	69.9	10.4	19.7	67.4	11.6	20.9
Slovak Republic	37.4	41.6	17.2	59.0	28.5	12.5	59.5	25.2	15.3
Slovenia	67.0	5.0	28.0	63.8	7.4	28.9	58.2	8.3	33.5
<b>NIS</b>									
Russia	33.6	9.5	56.9	35.8	11.0	53.2	36.3	7.7	56.0
Ukraine	10.7	6.6	82.7	17.8	7.3	74.9	18.3	8.1	73.6
Belarus	12.2	15.6	72.2	9.4	18.5	72.1	24.1	12.0	63.9
Kazakhstan	21.3	5.3	73.4	24.7	2.4	73.4	31.4	2.7	65.9

Source: National statistics (wiiw Database, CISSTAT).

Table 4b

**Regional composition of NMS and NIS imports**

(in % of total)

Year	1995			2000			2004		
	EU-15	NMS-8	Other	EU-15	NMS-8	Other	EU-15	NMS-8	Other
<b>NMS-8</b>									
Czech Republic	61.0	16.0	23.0	62.0	12.0	26.0	58.8	12.9	28.3
Estonia	66.0	7.0	27.0	62.6	7.8	29.6	61.6	16.0	22.4
Latvia	49.9	14.2	35.9	52.4	21.5	26.1	47.2	28.7	24.1
Lithuania	37.1	12.8	50.1	49.5	15.6	34.9	44.8	17.7	37.5
Hungary	61.5	7.1	31.4	58.4	6.5	35.1	62.5	9.1	28.5
Poland	64.6	6.3	29.1	61.2	7.5	31.4	59.7	8.5	31.8
Slovak Republic	34.8	28.9	33.8	48.9	19.6	31.5	49.8	21.2	29.1
Slovenia	68.8	7.6	23.6	67.8	12.8	19.4	73.3	14.7	12.0
<b>NIS</b>									
Russia	38.3	6.3	55.4	32.9	4.1	63.0	37.6	4.2	58.2
Ukraine	14.9	4.8	95.2	20.6	5.1	94.9	24.2	4.8	71.0
Belarus	16.7	10.4	72.9	14.9	6.3	78.8	13.6	6.0	80.4
Kazakhstan	12.9	2.9	84.2	20.1	3.2	76.7	23.3	4.0	72.7

Source: National statistics (wiiw Database, CISSTAT).

Table 5a

### Trade integration of NMS and NIS: exports as % of total

percentage point change in shares 2000-2004

<b>Exports to:</b>	<b>of:</b>	CZ	HU	PL	SK	EE	LV	LT	RU	UA	BY	KZ
Czech Republic		.	0.70	0.52	-3.84	0.25	-0.11	-0.53	-0.44	-0.38	-0.03	0.17
Hungary		0.84	.	0.51	0.27	2.90	0.14	0.34	-0.55	0.23	0.15	0.17
Poland		-0.18	0.71	.	-0.42	0.41	2.09	-0.76	-1.18	0.13	1.51	0.16
Slovak Republic		0.77	0.90	0.39	.	0.04	-0.29	0.06	-0.72	-0.37	0.08	0.07
Estonia		0.05	0.08	0.06	0.03	.	3.07	2.74	-0.35	0.47	-1.36	0.09
Latvia		0.00	0.02	-0.06	0.02	0.98	.	-4.75	-0.83	0.01	-4.12	-0.25
Lithuania		-0.02	0.04	-0.08	0.09	1.63	1.89	.	-0.40	0.86	-2.69	-0.05
<b>NMS</b>		1.46	1.75	0.82	-0.01	5.96	6.90	-2.37	-4.03	1.33	-6.43	0.19
Russia		0.07	0.02	1.09	0.31	3.23	2.22	3.10	.	-6.10	-3.52	-5.28
Ukraine		0.19	0.52	0.21	-0.18	0.50	-0.78	-1.51	1.05	.	-3.72	-1.56
Belarus		-0.22	-0.01	-0.01	0.07	-0.18	0.89	0.96	0.74	-0.18	.	-0.08
Kazakhstan		-0.04	0.05	0.01	0.03	1.38	0.28	0.52	0.38	1.38	0.61	.
<b>NIS</b>		0.00	0.58	1.30	0.23	4.93	2.61	3.07	2.17	-4.90	-6.63	-6.92

Sources : wiiw calculations based on national statistics and Eurostat Comext database.

Table 5b

### Trade integration of NMS and NIS: imports as % of total

percentage point change in shares 2000-2004

<b>Imports from:</b>	<b>of:</b>	CZ	HU	PL	SK	EE	LV	LT	RU	UA	BY	KZ
Czech Republic	.	0.83	0.42	-1.20	0.40	0.28	0.13	0.02	0.28	-0.86	0.10	
Hungary	0.49	.	0.31	1.29	0.78	0.05	-0.17	-0.21	0.06	-0.15	-0.06	
Poland	1.18	1.18	.	0.91	1.27	0.87	2.75	0.94	1.10	0.29	0.17	
Slovak Republic	-0.64	0.21	0.17	.	0.08	0.08	0.07	0.23	-0.14	0.11	-0.15	
Estonia	-0.11	0.09	0.02	-0.01	.	0.92	2.02	-0.05	-0.08	0.02	0.60	
Latvia	0.00	0.02	0.13	-0.01	0.49	.	2.15	0.01	-0.14	0.18	0.11	
Lithuania	0.01	0.05	-0.03	0.02	3.39	4.95	.	0.17	-0.44	0.26	-0.03	
<b>NMS</b>	0.93	1.55	0.60	2.20	6.01	6.87	6.82	1.09	0.36	0.71	0.64	
Russia	-2.41	-2.42	-2.22	-7.72	1.24	-2.88	-4.18	.	-1.00	3.23	-11.03	
Ukraine	0.09	0.36	0.21	-0.08	0.59	1.28	0.16	-2.71	.	-0.64	4.07	
Belarus	-0.01	0.00	0.47	0.05	-2.46	1.33	0.37	-2.37	-2.46	.	0.34	
Kazakhstan	-0.19	0.07	0.34	-0.04	-1.62	-0.15	-0.28	-1.89	-1.62	-0.38	.	
<b>NIS</b>	-2.52	-1.99	-1.20	-7.79	-2.25	-0.42	-3.93	-6.97	-5.08	2.21	-6.62	

Sources : wiiw calculations based on national statistics and Eurostat Comext database.

### 3 Commodity composition of EU-NIS trade

The volume of EU trade is huge. In 2005, the EU-25 exported goods and services for more than EUR 3200 billion. A large part of this amount represents intra-EU trade dispatches; EU exports to the NMS account for less than 6% of the total, exports to Russia for just 1.5%, to Ukraine for 0.35%, to Kazakhstan for 0.11% and to Belarus for a tiny 0.09% of total EU exports. The four NIS combined thus account for less than 2% of total EU exports. The bulk of EU exports is made up of manufacturing products (90% of the total), in particular chemicals, motor vehicles, and machinery and equipment (Table 6). The concentration on manufacturing exports is even more pronounced in EU trade with the NMS and, yet more so, in exports to the NIS. Export structures are fairly similar across individual partners, especially regarding exports to NMS, as indicated by the high correlation coefficients in Table 8. Slightly more dissimilarity can be observed concerning exports to the NIS (particularly to Kazakhstan) where the EU export structure is more diversified (as indicated by a lower correlation).

In contrast to the similarity of export structures, EU imports from the NMS and NIS display a much more heterogeneous pattern. On the one hand, the four NIS combined represent a slightly more important partner for the EU, although only less than 3% of total EU-25 imports come from the NIS (the bulk of it – 2.4% – from Russia). Nearly twice as much of EU imports (about 6% of the total) comes from the NMS. Manufacturing is again the main part of EU imports from NMS (91% of the total) and, interestingly, also of imports from Belarus (93%; yet only 77% of EU imports from Ukraine represents manufacturing). However, only 37% of EU imports from Russia represent manufacturing products, in Kazakhstan the share of manufacturing is even lower: 16% (see Table 7). Imports from Russia and Kazakhstan are dominated by crude oil and gas (52% and 82% respectively of the total). A major part (40%) of EU imports from Ukraine is made up of basic metals (both manufacturing and mining). Even in the case of Belarus, more than 40% of EU imports are refined petroleum products (based on crude oil deliveries from Russia). The heavily skewed EU import patterns in trade with the NIS are illustrated by the extremely low correlation of import structures between EU imports from both the world (and imports from the NMS) and imports from the NIS (shown in the Table 8). This is again an indication of the lagging trade integration of the NIS, their structural weaknesses and the meagre role played by EU–NIS intra-industry trade.<sup>8</sup>

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<sup>8</sup> For the role played by intra-industry trade see Fertö and Soos (2006).

Table 6

**Commodity composition of EU-25 exports, year 2004, in % of total**

	<b>Total</b>	<b>NMS</b>	<b>Belarus</b>	<b>Russia</b>	<b>Ukraine</b>	<b>Kazakhstan</b>
Agriculture, hunting and related service activities	2.69	1.94	5.23	2.66	2.20	0.84
Forestry, logging and related service activities	0.08	0.07	0.01	0.02	0.01	0.00
Fishing, fish farming and related service activities	0.13	0.05	0.01	0.02	0.01	0.00
Mining of coal and lignite; extraction of peat	0.11	0.27	0.00	0.01	0.00	0.00
Extraction of crude petroleum and natural gas	0.89	0.04	0.00	0.00	0.00	0.00
Mining of uranium and thorium ores	0.00	0.00	0.00	0.00	0.00	0.00
Mining of metal ores	0.09	0.03	0.05	0.03	0.02	0.16
Other mining and quarrying	0.62	0.17	0.10	0.20	0.63	0.04
Manufacture of food products and beverages	6.01	4.42	7.46	7.86	5.01	2.32
Manufacture of tobacco products	0.26	0.20	0.38	0.16	0.26	0.12
Manufacture of textiles	2.09	3.44	4.22	2.02	5.38	0.64
Manufacture of wearing apparel; dressing and dyeing	1.73	1.28	1.58	2.86	2.49	1.40
Tanning and dressing of leather; manufacture of lugg.	1.09	1.13	0.52	1.31	1.57	0.65
Manufacture of wood and of products of wood and cork	0.98	0.99	1.71	0.86	1.25	0.95
Manufacture of pulp, paper and paper products	2.32	2.88	1.65	3.04	3.50	2.28
Publishing, printing and reproduction of recorded	0.66	0.68	0.15	0.81	0.27	0.28
Manufacture of coke, refined petroleum products	2.47	2.48	0.95	0.46	0.93	0.46
Manufacture of chemicals and chemical products	14.05	11.00	13.67	12.58	13.28	10.71
Manufacture of rubber and plastic products	2.95	4.94	3.63	3.65	5.27	2.13
Manufacture of other non-metallic mineral products	1.58	2.09	2.20	2.08	2.49	1.15
Manufacture of basic metals	5.43	6.48	2.44	1.98	2.79	4.67
Manufacture of fabricated metal products	2.82	4.44	3.45	3.29	3.89	5.24
Manufacture of machinery and equipment n.e.c.	10.48	11.56	20.96	18.95	17.06	24.03
Manufacture of office machinery and computers	3.45	2.74	1.20	4.31	2.93	2.02
Manufacture of electrical machinery and apparatus	3.97	5.90	3.55	3.71	3.54	5.10
Manufacture of radio, television and communication	5.12	6.70	6.70	9.14	7.08	4.28
Manufacture of medical, precision and optical inst	3.21	2.23	3.43	2.86	2.10	2.83
Manufacture of motor vehicles, trailers and semi-t	12.94	13.57	10.55	7.78	9.81	7.62
Manufacture of other transport equipment	4.09	1.74	0.23	2.28	1.95	16.55
Manufacture of furniture; manufacturing n.e.c.	2.43	2.00	1.28	3.01	3.01	2.39
Electricity, gas, steam and hot water supply	0.34	0.42	1.14	0.13	0.00	0.00
Computer and related activities	0.10	0.06	0.03	0.06	0.10	0.03
Other business activities	0.01	0.01	0.03	0.09	0.00	0.06
Sewage and refuse disposal, sanitation and similar	0.00	0.00	0.00	0.00	0.00	0.00
Recreational, cultural and sporting activities	0.36	0.13	0.06	0.17	0.07	0.07
Other service activities	0.00	0.00	0.00	0.00	0.00	0.00
n/a	4.42	3.92	1.44	1.62	1.09	0.96
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
<b>of which: manufacturing</b>	<b>90.17</b>	<b>92.89</b>	<b>91.91</b>	<b>94.99</b>	<b>95.86</b>	<b>97.83</b>

Source: Own calculations based on Eurostat Comext database.

Table 7

**Commodity composition of EU-25 imports, year 2004, in % of total**

	<b>Total</b>	<b>NMS</b>	<b>Belarus</b>	<b>Russia</b>	<b>Ukraine</b>	<b>Kazakhstan</b>
Agriculture, hunting and related service activities	2.61	1.31	0.90	3.47	4.64	0.56
Forestry, logging and related service activities	0.14	0.43	0.95	1.02	0.78	0.00
Fishing, fish farming and related service activities	0.19	0.04	0.01	0.01	0.00	0.00
Mining of coal and lignite; extraction of peat	0.43	0.94	0.38	2.63	1.56	0.08
Extraction of crude petroleum and natural gas	5.92	0.24	3.14	52.27	2.86	82.46
Mining of uranium and thorium ores	0.00	0.00	0.00	0.00	0.00	0.00
Mining of metal ores	0.46	0.01	0.00	1.01	8.77	0.00
Other mining and quarrying	0.67	0.14	0.64	1.50	2.15	0.05
Manufacture of food products and beverages	5.77	4.08	2.58	0.73	5.75	0.34
Manufacture of tobacco products	0.27	0.13	0.00	0.01	0.00	0.00
Manufacture of textiles	2.13	2.39	2.02	0.21	1.13	0.05
Manufacture of wearing apparel; dressing and dyeing	2.60	2.57	4.03	0.13	5.80	0.01
Tanning and dressing of leather; manufacture of lugg.	1.24	0.82	0.87	0.18	1.95	0.04
Manufacture of wood and of products of wood and cork	0.96	2.46	8.71	1.47	3.55	0.00
Manufacture of pulp, paper and paper products	2.06	1.80	0.20	0.71	0.25	0.00
Publishing, printing and reproduction of recorded	0.53	0.63	0.04	0.05	0.06	0.00
Manufacture of coke, refined petroleum products	2.53	3.74	43.67	13.43	7.95	3.95
Manufacture of chemicals and chemical products	12.48	5.38	8.80	3.50	6.74	1.18
Manufacture of rubber and plastic products	2.70	3.71	0.57	0.08	0.52	0.00
Manufacture of other non-metallic mineral products	1.24	1.93	1.52	0.14	0.79	0.00
Manufacture of basic metals	5.87	6.54	8.88	13.97	31.91	10.34
Manufacture of fabricated metal products	2.35	4.01	2.94	0.17	1.21	0.01
Manufacture of machinery and equipment n.e.c.	7.40	7.89	2.77	0.42	1.63	0.12
Manufacture of office machinery and computers	4.75	2.68	0.01	0.02	0.36	0.01
Manufacture of electrical machinery and apparatus	3.56	6.82	0.54	0.18	1.70	0.03
Manufacture of radio, television and communication	5.96	8.25	0.12	0.07	1.00	0.05
Manufacture of medical, precision and optical inst	2.78	1.46	1.15	0.08	0.17	0.16
Manufacture of motor vehicles, trailers and semi-t	11.31	17.88	1.82	0.13	0.32	0.00
Manufacture of other transport equipment	3.75	1.63	0.03	0.65	3.21	0.09
Manufacture of furniture; manufacturing n.e.c.	2.50	4.49	1.77	0.77	1.44	0.01
Electricity, gas, steam and hot water supply	0.31	0.50	0.51	0.35	1.15	0.00
Computer and related activities	0.07	0.02	0.00	0.00	0.00	0.00
Other business activities	0.01	0.00	0.00	0.00	0.00	0.00
Sewage and refuse disposal, sanitation and similar	0.00	0.00	0.00	0.00	0.00	0.00
Recreational, cultural and sporting activities	0.29	0.08	0.01	0.02	0.01	0.00
Other service activities	0.00	0.00	0.00	0.00	0.00	0.00
n/a	4.16	5.00	0.38	0.63	0.63	0.44
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
<b>of which: manufacturing</b>	<b>84.74</b>	<b>91.29</b>	<b>93.07</b>	<b>37.07</b>	<b>77.45</b>	<b>16.40</b>

Source: Own calculations based on Eurostat Comext database.

Table 8

**Correlations of EU-25 export structures, 1999-2004 (at NACE-2 digit level)**

	1999	2000	2001	2002	2003	2004
Exports: World/NMS	0.94520308	0.94899961	0.94387769	0.95023252	0.9444544	0.95443735
World/BY	0.83436301	0.78764845	0.8619577	0.90025301	0.87890318	0.86526437
World/RU	0.80313543	0.85492043	0.89768083	0.89849091	0.90191121	0.85736874
World/UA	0.84053214	0.8717012	0.90325405	0.89871185	0.91613739	0.89158526
World/KZ	0.53747902	0.70336527	0.75361492	0.81321851	0.80706484	0.72125928

**Correlations of EU-25 import structures, 1999-2004 (at NACE-2 digit level)**

	1999	2000	2001	2002	2003	2004
Imports: World/NMS	0.79780301	0.7750654	0.78099819	0.77645391	0.76876555	0.78827037
World/BY	0.47002353	0.42284476	0.37855959	0.33029048	0.2282089	0.15799543
World/RU	0.12491771	0.25086093	0.21615239	0.19597036	0.21041427	0.2368428
World/UA	0.25906223	0.29523047	0.27865144	0.27401843	0.34605416	0.2787352
World/KZ	0.15174915	0.24056255	0.21891549	0.1849106	0.19542956	0.20835401

Source: own calculations based on Eurostat Comext database.

Turning now to the commodity composition of EU–NM–NIS trade, the first point to be noted is the overwhelming prevalence of manufacturing in both NMS overall exports and imports (more than 90% of total NMS trade are manufacturing products); there is also a high importance of intra-industry trade.<sup>9</sup> In NMS exports, there is no duality in the regional commodity structure either: manufacturing prevails in both exports to the EU and to the NIS. Yet, as concerns NMS imports from the NIS, there is a similar dichotomy as noted above with respect to EU trade: 96% of NMS imports from Belarus (in 2004) represented manufacturing products, while the latter accounted for only 61% of imports from Ukraine (for 45% of imports from Kazakhstan, and only 23% of imports from Russia). A more detailed analysis of the commodity composition reveals an even greater import structure bias.

<sup>9</sup> Intra-industry trade was analysed in another INDEUNIS paper by Fertö and Soos (2006).



Figures 4a to 4d illustrate developments and the commodity composition of NMS exports to the NIS (at NACE 2-digit level) during the period 1999-2004. In analogy, Figures 5a to 5d show the commodity import patterns: on the horizontal axis the shares of NACE 2-digit manufacturing export commodities are presented (in per cent of manufacturing export totals), on the vertical axis the respective percentage increase in the period 1999-2004 is presented (the same for imports). The size of the bubbles is proportional to the value of exports in 2004 (in EUR million). The key NMS manufacturing export commodities to the NIS are chemicals (NACE 24), machinery & equipments (NACE 29), motor vehicles (NACE 34) and food products (NACE 15). Besides, there is a number of other manufacturing products ('bubbles') which are exported by the NMS to NIS, which indicates a diversified export structure of NMS (Figures 4a-4d).

By contrast, NMS manufacturing imports from the NIS are dominated by just a few commodities: basic metals (NACE 27), refined petroleum (NACE 23), chemicals (NACE 24) and fabricated metal products (NACE 28 – see Figures 5a-5d).<sup>10</sup> Another distinct feature of NMS imports from the NIS (as compared to exports) is a much smaller number of 'bubbles', e.g. a high concentration of imports (and therefore vulnerability to price fluctuations) on a few basic manufactures. A more detailed shift-and-share analysis of the commodity composition of exports is conducted in Section 4 below.

#### **4 Market share analysis of EU–NMS–NIS manufacturing exports**

This section presents the key findings of a more detailed (at NACE 3-digit level) 'shift-and-share' decomposition analysis of NMS and NIS exports to the EU-25 in the period 1999-2004.<sup>11</sup> The applied decomposition method is described in Box 1. The source of data is the detailed Eurostat Comext database where NMS (but not NIS) are included as reporting countries since 1999. Table 9 shows the top 30 industries (at NACE 3-digit level) in which the NMS recorded the biggest absolute market share gains in the EU during 1999-2004 ('competitive gain' – the third component of the 'shift-and-share' decomposition in Box 1).<sup>12</sup> The list is topped by motor vehicles, TV and radio transmitters, motor vehicles parts, etc. – all industries which are classified either as high-tech or medium-high-tech. All these industries recorded double-digit annual export growth rates during 1999-2004 and their market shares in the EU was close to 10% in 2004. At the bottom of the list are competitive 'losers' – industries which lost market shares in the EU. In the majority of cases, these are industries classified as low- tech and labour- intensive (such as leather and footwear – Table 9).

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<sup>10</sup> Note that this does not involve crude oil and gas (not included in manufacturing) which account for a larger part of NMS imports from Russia (52%) and Kazakhstan (82%) – see Table 7 above.

<sup>11</sup> This approach has been used earlier (Havlik, 2000). For a similar analysis covering more countries see Cheptea et al. (2005).

<sup>12</sup> The detailed results for individual countries are available on request from the author.

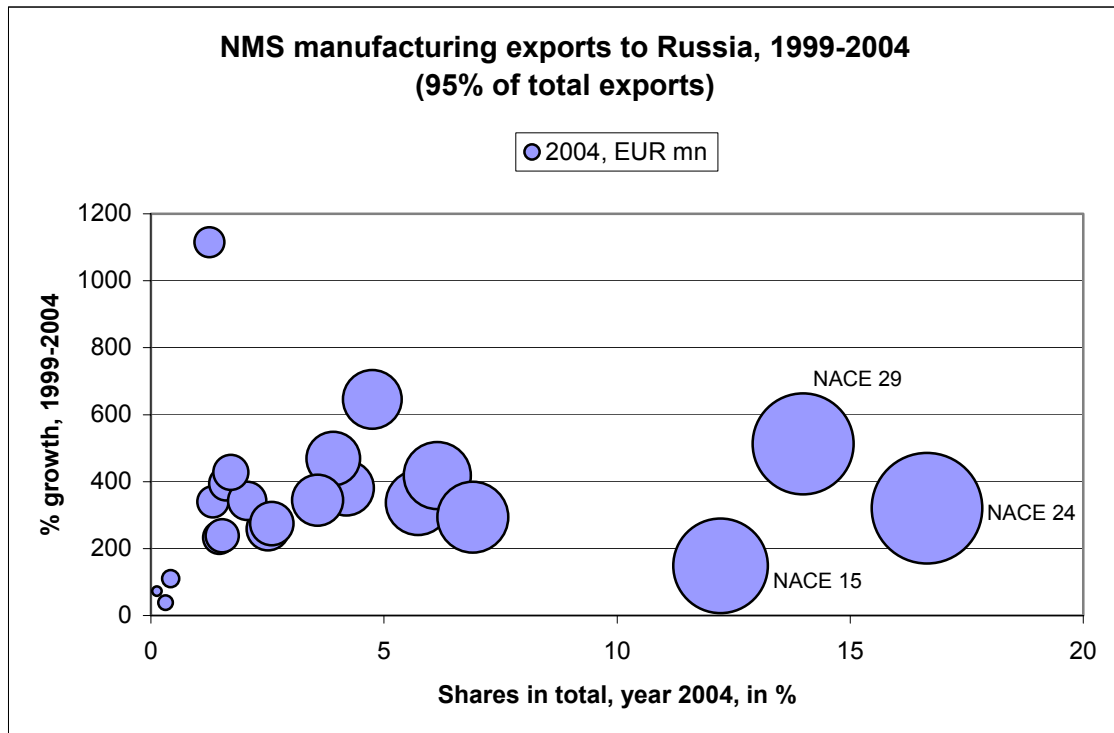
Table 9

**NMS-8: gaining and losing industries in exports to the EU-25, 1999 - 2004**

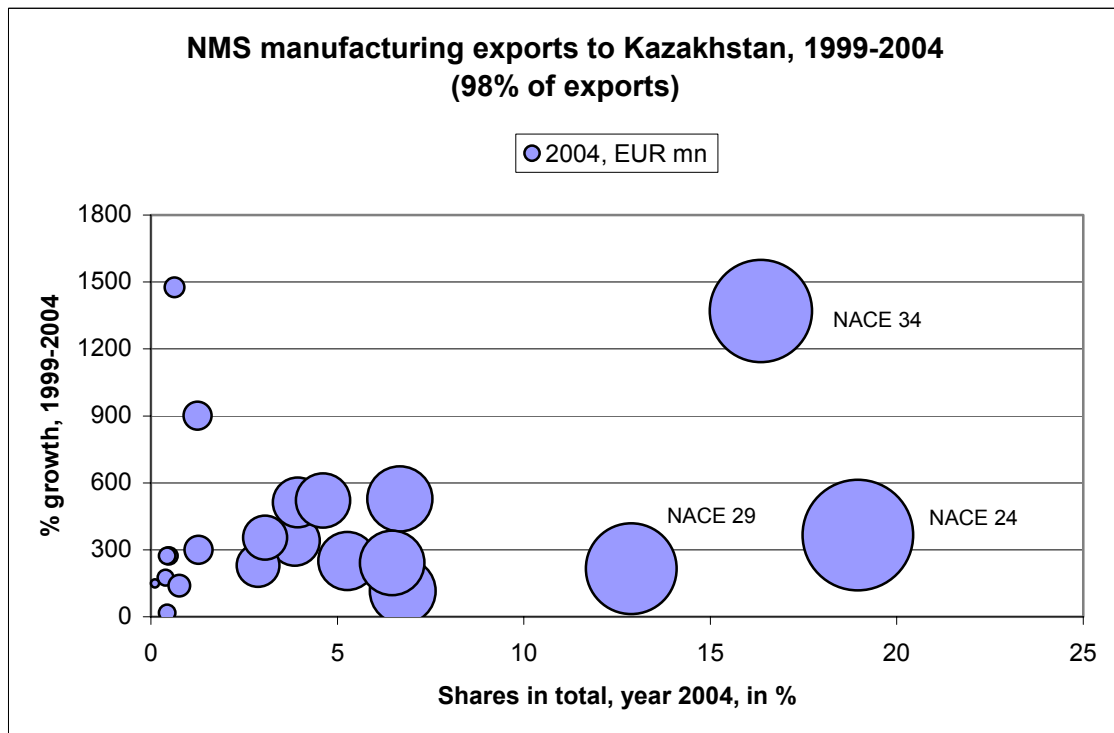
	NACE rev.1	Exports 2004 ECU mn	Average annual change in %	Competitive gain, 1999-04 EUR mn	Market share in the EU-25 2004 in %
<b>30 biggest winners</b>					
Motor vehicles	341	17834.8	14.0	6323.3	7.69
TV, and radio transmitters, apparatus for line telephony	322	5156.1	61.8	4574.4	9.03
Parts and accessories for motor vehicles	343	8229.9	21.2	4181.2	8.71
Refined petroleum and nuclear fuel	232	4731.8	27.3	2567.0	7.06
Basic iron and steel, ferro-alloys (ECSC)	271	5516.8	20.7	2236.7	7.11
TV, radio and recording apparatus	323	5786.8	17.1	2215.6	10.16
Office machinery and computers	300	4128.7	11.6	1672.6	2.93
Furniture	361	5894.1	11.9	1593.0	18.35
Machinery for production, use of mech. Power	291	3202.9	16.8	1361.4	5.34
Rubber products	251	2832.6	17.4	1270.9	10.52
Plastic products	252	2840.4	15.4	1118.8	5.33
Domestic appliances n. e. c.	297	2492.9	16.1	991.0	9.93
Electricity distribution and control apparatus	312	2357.9	15.2	949.9	9.05
Other food products	158	1662.5	23.0	935.3	4.67
Other general purpose machinery	292	2458.4	13.4	872.8	4.7
Other special purpose machinery	295	2441.4	10.8	848.9	5.05
Electrical equipment n. e. c.	316	3233.9	11.6	826.3	10.59
Instruments for measuring, checking, testing, navigating	332	1368.1	22.3	762.1	4.04
Aircraft and spacecraft	353	848.8	53.8	742.1	1.1
Basic chemicals	241	4473.3	8.3	733.4	3.02
Other fabricated metal products	287	3112.0	10.4	713.5	8.88
Bodies for motor vehicles, trailers	342	1409.8	19.2	660.5	15.91
Electric motors, generators and transformers	311	2095.6	10.1	555.8	9.47
Dairy products; ice cream	155	849.1	26.2	538.5	4.24
Pulp, paper and paperboard	211	1699.8	11.0	530.1	3.71
Cutlery, tools and general hardware	286	1185.3	16.1	502.8	5.73
Isolated wire and cable	313	1449.2	13.2	490.4	14.02
Detergents, cleaning and polishing, perfumes	245	1058.5	18.5	470.5	4.47
Pharmaceuticals	244	1413.5	17.4	431.0	1.09
Articles of paper and paperboard	212	1081.9	10.9	353.5	7.10
<b>10 biggest losers</b>					
Leather clothes	181	29.4	-5.7	-12.5	1.91
Musical instruments	363	29.8	-4.5	-14.7	2.23
Bricks, tiles and construction products	264	44.7	-5.7	-15.4	8.68
Tanning and dressing of leather	191	165.8	0.5	-17.7	3.23
Cutting, shaping, finishing of stone	267	27.9	-9.7	-28.7	1.45
Other products of wood; articles of cork, etc.	205	481.8	1.7	-45.8	12.61
Cement, lime and plaster	265	155.4	-10.9	-172.8	7.5
Footwear	193	837.5	-2.5	-308.4	3.54
Ships and boats	351	326.0	-4.0	-316.4	2.11
Other wearing apparel and accessories	182	3765.1	-3.7	-1690.6	5.03
<b>Total</b>		<b>139400.7</b>	<b>12.9</b>	<b>45653.8</b>	<b>5.56</b>

Source: wiiw calculations based on Eurostat Comext database

Figures 4a-4d

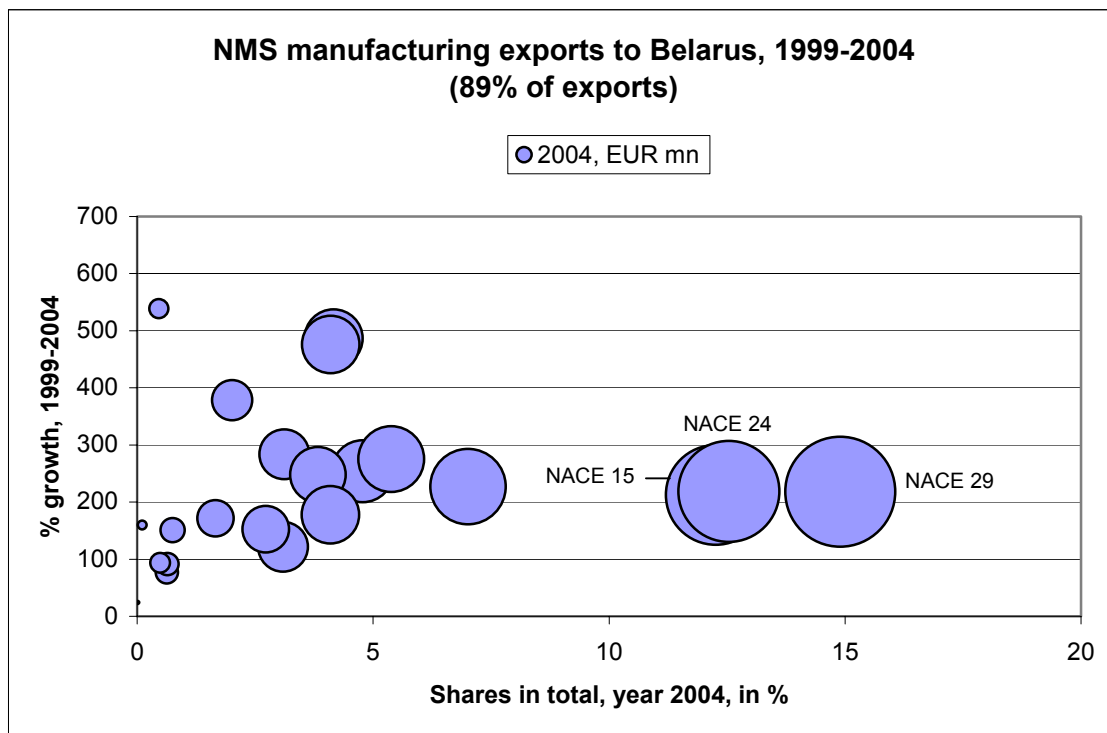


The top 3 export commodities: chemicals (NACE 24), machinery & equipment (NACE 29), food products (NACE 15).

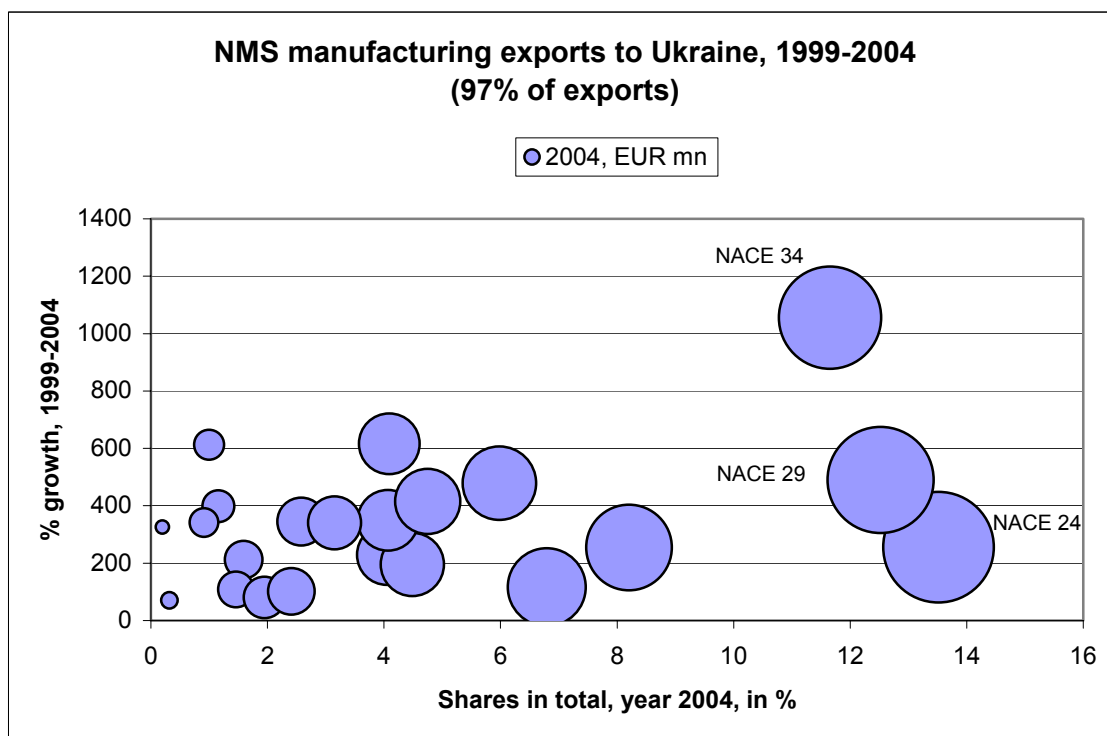


The top 3 export commodities: chemicals (NACE 24), motor vehicles (NACE 34), machinery & equipment (NACE 29).

Source: Own calculations based on Eurostat Comext database.



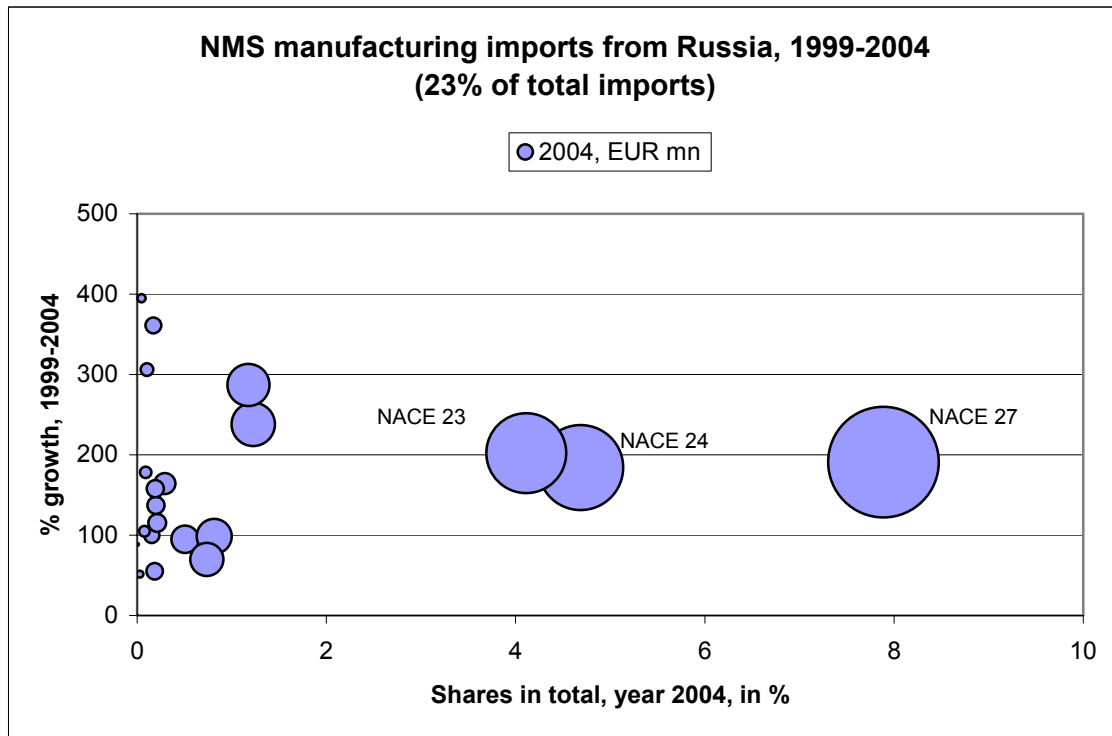
The top 3 export commodities: machinery & equipment (NACE 29), chemicals (NACE 24), food products (NACE 15).



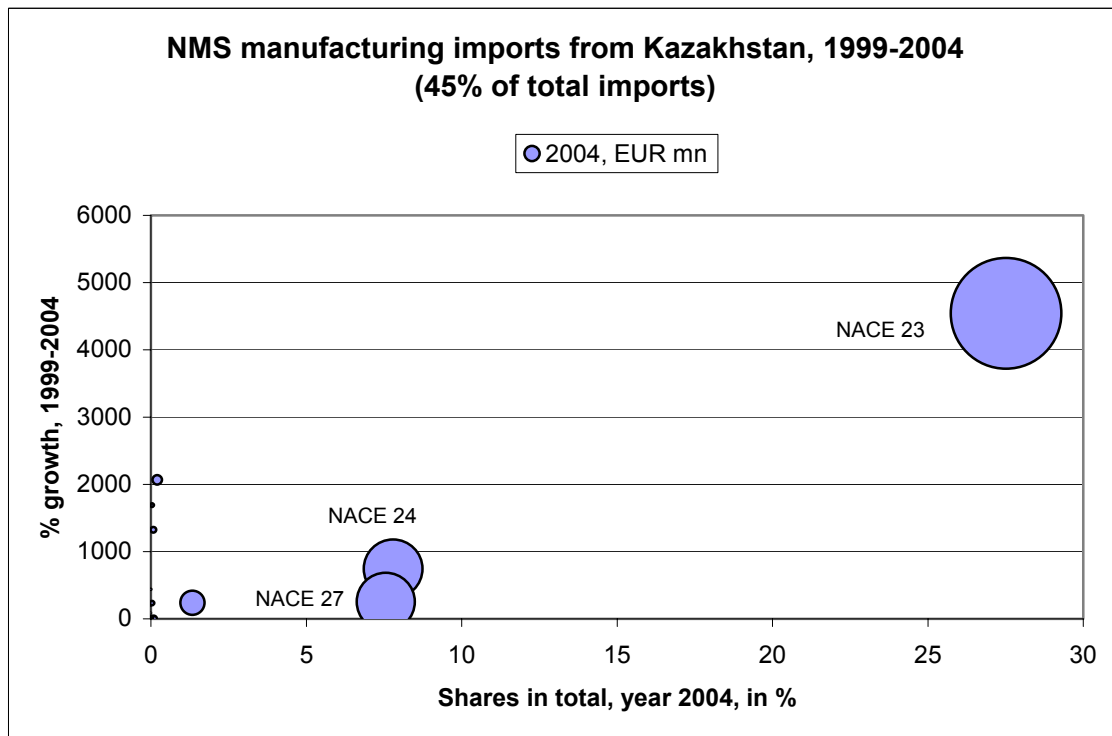
The top 3 export commodities: chemicals (NACE 24), machinery & equipment (NACE 29), motor vehicles (NACE 34).

Source: Own calculations based on Eurostat Comext database.

Figures 5a-5d

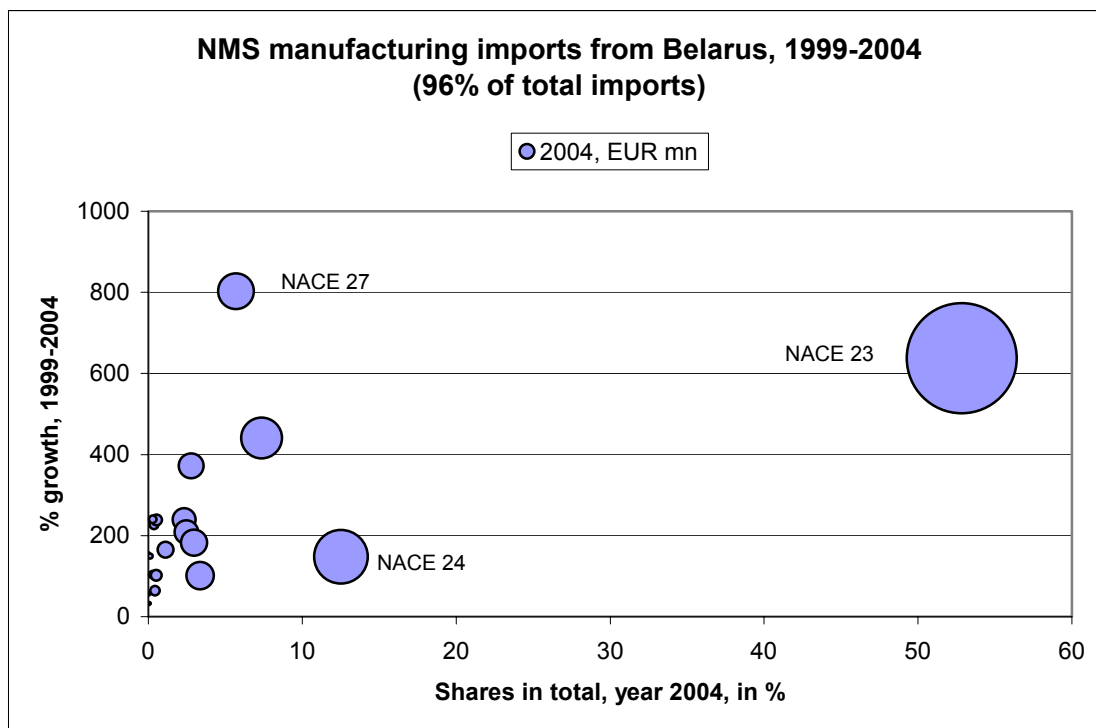


The top 3 import commodities: basic metals (NACE 27), refined petroleum (NACE 23), chemicals (NACE 24).

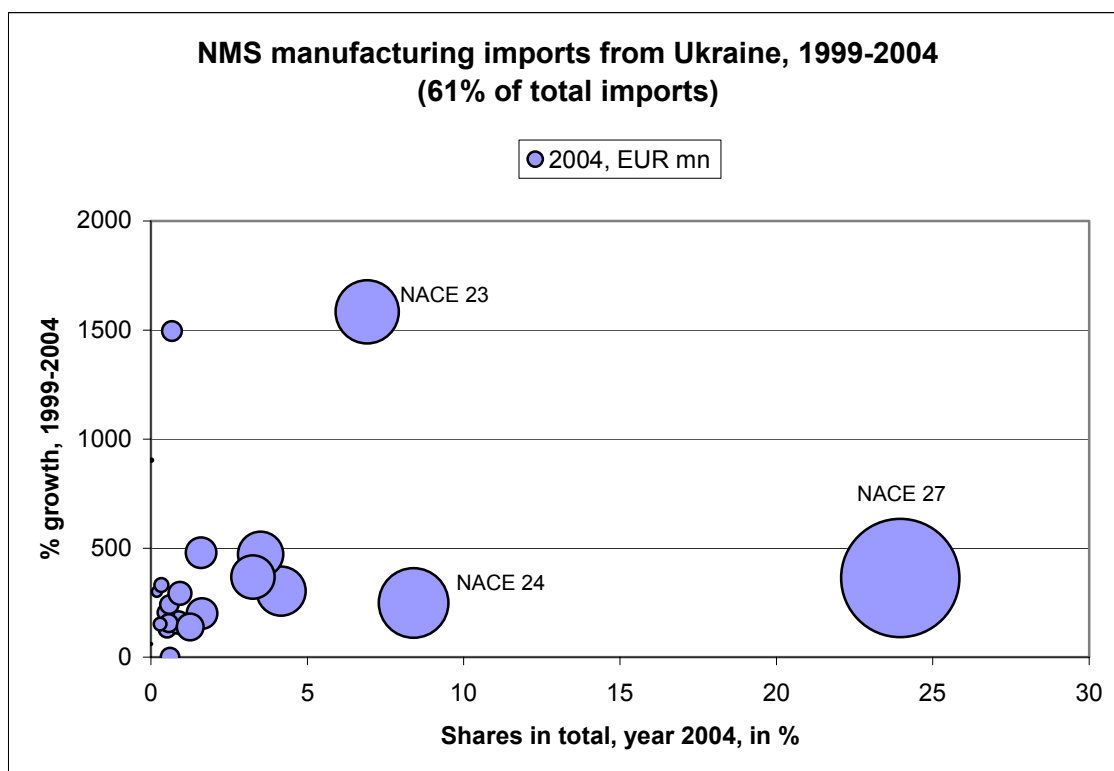


The top 3 import commodities: refined petroleum (NACE 23), basic metals (NACE 27), chemicals (NACE 24).

Source: Own calculations based on Eurostat Comext database.



The top 3 import commodities: refined petroleum (NACE 23), chemicals (NACE 24), basic metals (NACE 27).

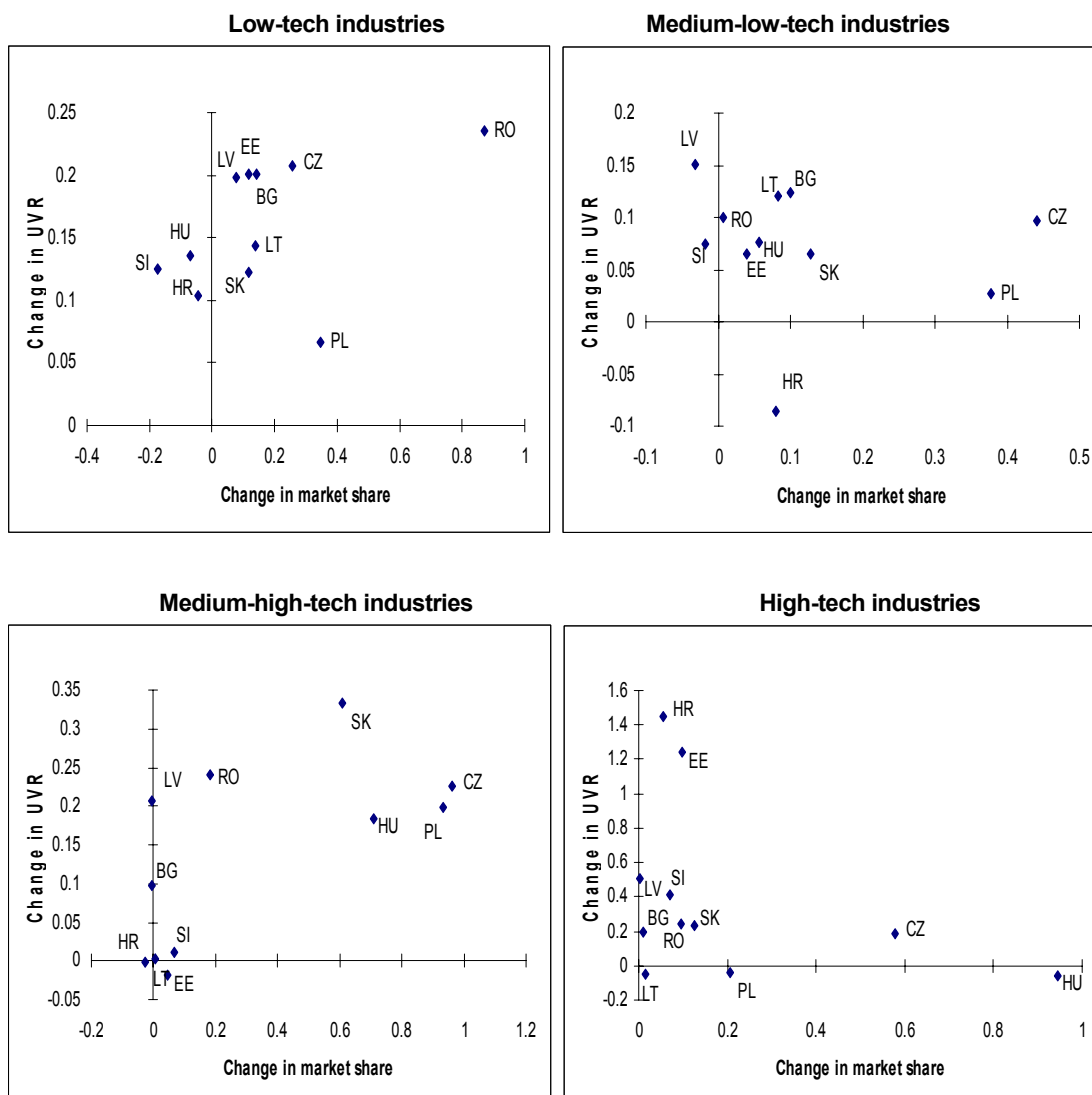


The 3 biggest import commodities: basic metals (NACE 27), refined petroleum (NACE 23), chemicals (NACE 24).

Source: Own calculations based on Eurostat Comext database.

Figure 6

**Changes in quality/price competitiveness and market shares in EU-15 markets, 1995/98 to 2002/04**



Source: wiiw calculations. UVR (Unit Value Ratio) refers to the relative export price (see Landesmann and Wörz, 2006).

The analysis of export market shares thus confirms an impressive industrial restructuring in the NMS, away from low-tech and labour-intensive products towards more sophisticated medium- and high-tech industries. The successful export performance and the related industrial restructuring in the NMS are not only visible in market share gains, but are also particularly evident in rising export prices (quality improvements) – especially in medium-high-tech industries. Figure 6 shows the changes in market shares and relative export prices in NMS exports to the EU-15 by groups of industries.<sup>13</sup>

<sup>13</sup> Relative export prices compared to other competitors – unit value ratios (UVR). Changes in UVR represent the gains in export prices in the specific manufacturing product group (relative to prices of all EU imports in that group) – for details see Landesmann and Wörz (2006).

As can be seen, the Czech Republic, Poland, Slovakia and Hungary have been gaining strongly in terms of their EU market shares – in particular in medium-high-tech industries (which include chemicals, machinery and equipment, electrical machinery and apparatus, motor vehicles, other transport equipment). At the same time they have also been gaining in terms of prices received for their exports, hence in terms of improved product quality as well. Those four countries may thus be regarded as competing successfully with higher quality – not merely with lower prices. As for high-tech exports, the four countries have been less successful in terms of higher prices/quality. Nonetheless, the Czech Republic and Hungary have also increased their market shares in those products (which include such items as office machinery and equipment, computers, radio, television and communications equipment, medical, precision and optical instruments). As for traditional low-tech products, most countries have achieved significant gains – in terms of both prices and market shares. A similar situation obtains in medium-low-tech products; both the Czech Republic and Poland seem to have secured large gains on both counts.<sup>14</sup>

The NMS restructuring process was supported by massive inflows of FDI (Hunya, 2006) with the most obvious effects visible in motor vehicles, electronic and electro technical industries where most exports come from foreign-owned or foreign-dominated firms. At the same time, the previous specialization on low-tech labour- and/or energy-intensive industries observed at the beginning of the 1990s (see e.g. Havlik, 1995) is rapidly diminishing.

The analogical decomposition of NIS exports to the EU reveals quite a different picture:<sup>15</sup> during 1999-2004 the biggest market share gains in the EU were achieved in energy- and resource-intensive industries such as refined petroleum, basic iron, steel and basic chemicals (this is true for NIS exports to both the EU as a whole and to the NMS). This was the case even in such resource-poor country as Belarus where refined petroleum was by far the most important manufacturing export industry in 2004, clearly profiting from rising energy prices and exiting refinery capacities.<sup>16</sup> Evidence of a successful industrial restructuring in the NIS is lacking: on the contrary, industries such as motor vehicles or the electro technical industries are frequently among the market share losers. In many respects, the export pattern of e.g. Belarus, Ukraine and Moldova is similar to that in the NMS at the beginning of the 1990s – before restructuring there had started.

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<sup>14</sup> Similar findings regarding restructuring towards higher-quality goods in the Czech, Hungarian and Polish industry were obtained by Wziątek-Kubiak and Magda (2006) who analysed productivity dynamics, relative labour costs and export market share developments in the above three NMS.

<sup>15</sup> The decomposition of NIS exports to the EU is based on mirror statistics (EU imports from the NIS).

<sup>16</sup> In several NMS, especially in the Baltic states and in Slovakia, refined petroleum figures also prominently among the successful export industries.



## Box 1

The 'shift-and-share' analysis can be applied to decompose the increment of country *i*'s (in our case a given NMS or NIS) total exports to another region (in our case the EU-25 or NMS)  $\Delta X_i$  as follows:

$$\Delta X_i = \sum_j \Delta x_{ij} = \sum_j x_{ij} (\Delta M / M) + \sum_j x_{ij} [(\Delta M_j / M_j) - (\Delta M / M)] + \sum_j x_{ij} [(\Delta x_{ij} / x_{ij}) - (\Delta M_j / M_j)],$$

where  $x_{ij}$  is country *i*'s exports of commodity/sector *j*;  $M_j$  denotes EU (NMS) total imports of commodity/sector *j*;  $M$  denotes EU (NMS) total imports and ' $\Delta$ ' stands for the absolute increment between 1999 and 2004.

The first element  $\sum_j x_{ij} (\Delta M / M)$  can be interpreted as a general demand component; the second element  $\sum_j x_{ij} [(\Delta M_j / M_j) - (\Delta M / M)]$  represents a structural effect component, and the third element  $\sum_j x_{ij} [(\Delta x_{ij} / x_{ij}) - (\Delta M_j / M_j)]$  is a component measuring the competition effect.

The shift-and-share analysis thus makes it possible to decompose the total increment in the country's exports to the EU (or the NMS) into three hypothetical components:

1. a *general demand component*, showing how a given country's exports would develop if growing at the same rate as total EU (or NMS) imports;
2. a component measuring the *structural effect*, showing whether the country's exports are centred on commodities that are in above-average demand in the EU (or in the NMS); that is, they grew at above-average rates as compared with total EU (NMS) imports; and
3. a component measuring the *competition effect*, namely, whether the country has exported more in certain commodities to the EU (NMS) than its competitors on the EU (NMS) market. The latter component is the main focus of our analysis.

Detailed results of the 'shift-and-share' analysis by countries are available on request from the author.

## 5 Summary conclusions

The trade relations between the EU, the NMS and the NIS have undergone sweeping changes since the end of the 1980s. The former regional autarky of the communist trading bloc was followed by the disintegration of the CMEA and later of the Soviet Union, and by the full integration of NMS into the EU. There has been a general trade reorientation of both the NMS and (less so) the NIS towards the West. The changes in commodity trade patterns have also been uneven: a far-reaching trade restructuring occurred in the NMS, driven by reforms, EU integration and FDI inflows, while the NIS essentially maintained or even strengthened their traditional resource-based export structure as reforms, trade integration and restructuring were lagging behind.

Simultaneously, a very rapid trade expansion occurred in both the NMS and the NIS. Between 1993 and 2005, NMS exports increased (in nominal euro terms) by a factor of 5.4

and imports by 4.9. During the same period, the export coverage of imports grew and trade deficits declined. Russian exports increased less than 4 times (imports only 3.3 times) and even that growth resulted to a large degree from an increase in commodity prices. The dynamics of Ukrainian, Belarusian and Kazakh foreign trade was even slower. The two resource-rich NIS (Russia and Kazakhstan) enjoy huge trade surpluses.

In the NMS, the outstanding feature has been the rising trade with the EU. After EU accession, 70-80% of NMS trade has represented intra-EU exchanges. Trade integration with the EU, especially regarding NMS exports, is thus extremely high. Another interesting feature of NMS trade is the fact that intra-NMS trade is experiencing a revival. The EU accession process has thus been conducive to trade re-integration among the NMS. The regional trade patterns in the NIS differ considerably from those of the NMS. The share of the CIS in exports has been gradually declining over time, particularly in Ukraine, Kazakhstan as well as in Belarus. In Russia, the CIS accounted for less than 20% of exports during the last decade (13.5% in 2005). The importance of the CIS markets for imports is much higher and the decline of CIS import shares has been less pronounced. Kazakhstan and Ukraine still receive nearly 50% of their imports from the CIS (and Belarus even 66%). Clearly, the importance of the CIS (and of Russia in particular) is quite substantial for the 'smaller' CIS republics (especially so for Belarus). Simultaneously, there has been a rising importance of the EU as an export outlet for the NIS.

The recent trade developments on EU–NIS borders indicate a closer trade integration among the NMS, a declining trade integration among the NIS, as well perhaps contradictory shifts in NMS–NIS exports and imports. The importance of the NIS as export markets for the NMS is growing, in particular for NIS neighbours such as Poland, Hungary and the Baltic states. As far as the NIS are concerned, their export shares to the NMS declined (except for Ukraine). Intra-NIS exports declined as well – with the exception of Russia (probably due to energy price effects). Both the NMS and NIS are importing more from the EU border region: the shares of the NMS in imports of all countries concerned increased. However, the importance of the NIS as a source of imports declined in both NMS and NIS (the latter with the exception of Belarus). The rising shares of intra-NMS exports and imports, as well as the declining importance of their imports from the NIS (and the drop in shares of intra-NIS trade) have a great deal to do with the commodity trade composition. A related factor playing an important role in these developments is the varying degree of intra-industry trade.

EU exports to the NMS account for less than 6% of the total, exports to Russia for just 1.5%, to Ukraine for 0.35%, Kazakhstan for 0.11% and Belarus for a tiny 0.09% of total EU exports (the latter exceeded EUR 3200 billion in 2005). The four NIS combined account for less than 2% of EU exports. The bulk of EU exports are made up of manufacturing products (90% of the total), in particular chemicals, motor vehicles, and

machinery and equipment. The concentration on manufacturing exports is even more pronounced in EU trade with the NMS and, yet more so, in EU exports to the NIS. By contrast, EU imports from the NMS and NIS display a much more diversified pattern. The four NIS combined account for less than 3% of total EU imports (the bulk of it – 2.4% – are imports from Russia). Nearly twice as much of EU imports (5.2% of the total) originates in the NMS. Manufacturing is again the main part of EU imports from the NMS and, interestingly, also of imports from Belarus. However, only 37% of EU imports from Russia represent manufacturing products, in imports from Kazakhstan the share of manufacturing is even lower (16%). Imports from Russia and Kazakhstan are dominated by crude oil and gas; a major part of EU imports from Ukraine is made up of basic metals. Even in the case of Belarus, more than 40% of EU imports are refined petroleum products (based on crude oil deliveries from Russia). There is mounting evidence of lagging trade integration among the NIS and of the meagre role played by EU–NIS intra-industry trade.

The commodity composition of EU–NMS–NIS trade is characterized by the overwhelming prevalence of manufacturing in both NMS overall exports and imports. In NMS exports there is no dual structure: manufacturing prevails in their exports to the NIS as well. Yet as far as NMS imports from the NIS are concerned, there is a similar dichotomy as noted above with respect to their EU trade: manufacturing products account for a lesser share of NMS imports. The key NMS manufacturing export commodities to the NIS are chemicals, machinery & equipments, motor vehicles and food products. Besides, there is a number of other manufactures exported by the NMS to the NIS. By contrast, NMS manufacturing imports from the NIS are dominated by basic metals, refined petroleum, chemicals and fabricated metal products, and there is a high concentration (and therefore vulnerability to price fluctuations) on just a couple of basic manufactures. With a few exceptions (such as railway machinery), there are hardly any machinery and equipment imports from the NIS.

Today, the NMS increasingly specialize on high-tech and medium-high-tech products (motor vehicles and parts, TV, radio and telecommunication equipment, etc.); their previous specialization on low-tech, resource-based and labour-intensive exports has nearly disappeared. Moreover, the NMS have been successful not only in gaining export market shares in the EU, but in quality/price improvements of their exports as well. Wide-ranging modernization and industrial restructuring in the NMS has been facilitated by the process of EU integration and massive inflows of FDI. Again, this contrasts with developments in the NIS where the resource specialization has generally increased as reforms and restructuring were delayed. It is questionable whether the NIS will be able to revamp their industrial structure without significantly stepping up reform efforts, trade integration and attracting more FDI.

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