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## The role of services in the new member states: a comparative analysis based on input-output tables\*

BY DORIS HANZL-WEISS AND ROBERT STEHRER

The service sector is the largest and most important sector in advanced industrialized economies, accounting for about 70% of value-added and employment in OECD countries today. In the new EU member states, however, the service sector is still somewhat smaller and shows shares of about 60% in GDP.

The process of tertiarization, i.e. the over-proportionate growth of the service sector in developed economies, has characterized structural change throughout the 20<sup>th</sup> century. The share of manufacturing peaked between 1964 and 1975. Thereafter, the process of tertiarization accelerated while de-industrialization in terms of employment took place: the service sector became the major employer in OECD economies. In contrast in the command systems the service sectors being of low (or no) priority for the authorities. Since the start of the transformation, however, the new member states have undergone a reverse process: rapid de-industrialisation and, in most countries, also a de-agrarianization process occurred. Consequently the share of services in value-added and employment expanded. Structural differences between the new EU member states and selected old EU member states still prevail.

The service sector is composed of a variety of different activities ranging from financial transactions, legal consulting and communications to entirely different activities such as health care, transport, security, or cleaning services. In more detail, espe-

cially so-called business-related services (in particular finance, insurance and business services) are of high significance in services, being the most dynamic component and driver of structural change. The business-related services play an important and growing role as an intermediate input for manufacturing and other activities. Growth of demand for such 'producer services' as opposed to 'consumer services' arises from outsourcing of service activities from manufacturing and from structural changes within the service sector.

Using input-output statistics, this article analyses the role of services in the Central European new EU member states (NMS) – the Czech Republic, Hungary, Poland, Slovakia and Slovenia – and compares it to that in Austria. The investigation is based on Eurostat input-output tables and is done on the NACE 2-digit 1995, 2000 and 2005. This allows for aggregation to a higher level on the one hand as well as for an analysis at the detailed level on the other, comprising 25 service industries (NACE 50-95).

Input-output statistics consist of supply and use tables and symmetric input-output tables. Supply and use tables provide a detailed picture with respect to the supply of goods and service products by domestic industries and imports and the use of goods and service products for intermediate consumption by industry and final use (consumption, gross capital formation, exports). Use tables also include the components of value-added (compensation of employees, other net taxes on production, consumption of fixed capital, net operating surplus) generated by industries in the domestic economy. The corresponding classification schemes are CPA for products and NACE rev.1<sup>1</sup> for industries.

The first part of this article describes main indicators derived from the supply and use tables and then analyses services intensities. The second part presents different linkages measures and a key

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<sup>1</sup> CPA: Classification of Products by Activity; NACE: Classification of Economic Activities in the European Community.

sector analysis, based on symmetric industry-by-industry tables constructed for this purpose.

### Descriptive analysis of the supply tables

Looking at the domestic output structure, in 2005 major differences still existed between the new member states and Austria (see Table 1): Austria is dominated by services accounting for nearly 60% of total domestic output, while manufacturing output reaches 32%. The rest is taken by agriculture and construction. In the new member states it is the other way round: manufacturing still takes a much larger share compared to Austria with 40-50% while total services make up only 40-50% and hence lag behind Austria by 10-20 percentage points: 10 percentage points in Hungary, Poland and Slovenia, 20 percentage points in the Czech Republic and Slovakia (the most specialized in manufacturing). This is largely due to smaller shares in business services (defined as financial intermediation & real estate) and to a lesser extent to smaller shares in trade & hotels as well as in community services. Transport services show a slightly larger share of total output in the NMS than in Austria. However, also certain differences exist within the group of the NMS: Besides showing large shares for business services, there is also a focus on trade & hotels in Poland, and community services in Hungary.

Despite these still prevailing striking differences one can see ongoing changes of these specialization patterns towards service industries since 1995. Between 1995 and 2005, structural change towards the services sectors is clearly visible in the

NMS but also in Austria: The shares of business services increased most during that period, but also those of the transport sector and community services were rising. Only the shares of trade & hotels decreased somewhat in most countries. Overall, manufacturing shares decreased in Poland and Slovenia, remained constant in the Czech Republic and Hungary and increased in the Slovak Republic. This is further partly due to specialization on transport equipment in the latter three countries along with a specialization on communication equipment in Hungary and on electricity generation in the Slovak Republic, also reflecting specialization in trade patterns. Structural change was more pronounced between 1995 and 2000 and slowed down in the second period between 2000 and 2005, with the only exception of Hungary.

The supply tables provide information on primary output (also termed 'characteristic production') and production of other products not characteristic of this industry, called secondary output. In general, the share of the characteristic product is relatively high in the NMS but still below the Austrian level: the main-product ratio by country ranges between 85% in Slovenia, 87% in Slovakia, 88% in Poland and Hungary and 92% in the Czech Republic compared to 93% in Austria (2005 data). Typically, service industries show a higher characteristic production than manufacturing. However, usually trade & hotels have lower characteristic production shares than other service industries, due to the production of manufacturing products as secondary products in trade industries.

Table 1

### Output shares by broad industry aggregates, by product, 2005 (%)

		Austria	Czech Rep.	Hungary	Poland	Slovak Rep.	Slovenia
AB	Agriculture & Fishing	2	2	4	5	4	2
CDE	Mining & Manuf. & Energy	32	45	41	38	49	38
F	Construction	7	9	6	7	7	10
GH	Wholesale & retail trade; Hotels & restaurants	15	10	11	15	10	13
I	Transport	7	9	6	8	9	8
JK	Financial intermediation; Real Estate	22	14	17	15	12	16
L-P	Community, Social & Personal Services	15	10	15	12	10	13

Notes: For Poland and the Slovak Republic 2004.

Source: Eurostat supply tables; authors' calculations.

The supply tables are complemented by columns reporting imports by product. Looking at the import structure, manufacturing imports added up to almost 90% of total imports in all NMS in 2005, compared to 7-10% of services imports. In Austria, the relative shares stood at 82% and 15% respectively. This is due to foreign trade playing a smaller role in services than in manufacturing, as services are more location-based and production and consumption are closely linked. The only exceptions are business services, tourism and transport. Indeed when looking at services in more detail, import shares of business services take the largest portion (4-6% in the NMS, 6% in Austria). Transport import shares are somewhat smaller (3% in the NMS and 5% in Austria), while trade & hotels as well as community services' import shares are very small (0-1% in the NMS, compared to 3% and 1% in Austria). Between 1995 and 2005, manufacturing import shares increased in the NMS, while services shares mostly declined, especially those in business services. The only exception was Slovenia where manufacturing shares fell and services import shares – along with business services shares – were rising.

Import penetration rates (defined as the share of imports in total supply) of manufacturing products are typically higher than that of other products as well as services, reflecting the greater openness of the sector and together with exports also the important role of trade. Import penetration rates for the whole economy ranged between 22% in the Czech Republic, 24% in Hungary and Slovenia and 26% in Slovakia in 2004/05 and hence were slightly larger than that of Austria with 21%. Only in Poland, import penetration was lower typically for a large country and reaches 16% there. Generally, imports play a main role in manufacturing (accounting for 30-40% of total supply), but also in agriculture in Austria (24%). Looking at services, imports are important in transport services and business services. In transport services import penetration rates reach 6-12% in the NMS and 16% in Austria. In business services, rates are more pronounced in the NMS than in Austria (5-11% in the NMS, 6% in Austria), which might point to a greater need of these services in the NMS and a relative pent-up demand

there. Overall, import penetration rates increased between 1995 and 2005, the least in the Czech Republic with +3 percentage point change and the most in Slovakia with +6 percentage point change. While manufacturing import quotas increased in all countries of the region, no uniform pattern can be discerned for services import quotas on this aggregated level. However, import quotas for business services declined in three countries (Hungary, Poland, and Slovakia) and increased in Slovenia.

### **Descriptive analyses of the use tables**

Let us now come to an analysis of the use tables. Here we mainly focus on the structure of intermediate inputs in the broad industry aggregates: With respect to service inputs one can see that business services are the most important intermediate input within services in all countries. However, there are quite substantial differences across countries. Whereas in Austria this accounts for about 26% in total economy for the NMS this accounts for only about 13% in the Slovak Republic, 15% in Poland, 18% in the Czech Republic, 19% in Slovenia, up to about 21% in Hungary. This is partly driven by a lower share of input in the manufacturing sector in most NMS but also due to the lower share of inputs in other service sectors.

With respect to the industries capturing most intermediate inputs one finds that the manufacturing sector makes up the largest part with about 50%; these shares are in general higher for the NMS compared to Austria. On the other hand, service industries and particularly business services use less intermediates in the NMS compared to Austria.

Somewhat different to the above, the share of intermediates in total supply of business services is more or less in line with the level in Austria of about 60%, though slightly higher in the Czech Republic, lower in Poland and fluctuating in the Slovak Republic. In contrast, the share of intermediates in manufacturing tends to be higher in the NMS than in Austria.

As expected the most export-intensive sectors is manufacturing in most countries with ratios of

above 30% in all countries with the exception of Poland. These shares have been rising in almost all countries rapidly with increases of up to 10 percentage points. However, there are also other products comprising a high export ratio, namely service products trade & hotel and transport. Business services show ratios of about 10% in Austria in 2005, but lower ones for the other countries. Notably these ratios have been decreasing in some of them (Czech Republic, Poland, Slovak Republic) especially in the period 1995-2000.

More often than output data, the value added data are used to describe the size of different sectors in the economy. Services accounted for about 70% of total value-added in Austria in 2005, while in the NMS this share was still smaller. It reached about 60% in the Czech Republic, 66% in Hungary, 64% in Poland, 60% in Slovakia and 64% in Slovenia. This is largely due to smaller shares in business services and to a lesser extent to smaller shares in trade & hotels as well as in community services. Transport services show larger shares of value-added in all NMS than in Austria. However, also certain differences exist within the group of NMS. Between 1995 and 2005 a clear decline in the value added share of manufacturing and an increase in business Services took place.

### Service intensities, comparison to Austria and changes over time

It is then possible to calculate service intensities for the total economy, defined as the sum of service intensities of individual industries (share of service use in total output for each industry) weighted by the output shares of individual industries. Austria as well as the Czech Republic showed the highest service intensities in 2005, followed by Hungary and Slovenia, while it was lowest in Slovakia and Poland. In the Czech Republic the service intensity was already nearly as large as that in Austria. Service intensities were higher in 2005 than in 1995 in all NMS, but paces thereto differ: in the Czech Republic and Poland service intensities increased steadily, in Hungary and Slovenia they declined slightly first and grew thereafter, while in Slovakia the service intensity peaked in 2000 and then fell again according to the data available to us. Interestingly, in 1995, when compared to Austria service intensities were only somewhat smaller in the Czech Republic, Hungary and Slovenia. Service intensities for the individual broad service categories trade, hotels, transport and finance are by definition smaller, the most important service intensity is found for real estate (70-74) (see Table 2).

Table 2

#### Service intensities (shares of services in total output)

	AT1995	AT2005	CZ1995	CZ2005	HU1998	HU2005
Services	15.92	19.10	15.41	19.05	15.02	16.65
Trade	0.87	0.89	1.06	2.14	0.66	0.66
Hotels	0.80	0.82	0.85	0.60	0.37	0.20
Trans & comm.	2.67	4.08	4.37	5.04	3.56	3.34
Finance	4.28	2.95	2.58	2.37	2.56	2.84
Real estate	7.30	10.36	6.54	8.89	7.87	9.61
Computer, R&D etc	4.30	6.73	4.64	6.92	6.58	7.36
	PL1996	PL2004	SK1995	SK2004	SI1996	SI2005
Services	12.04	13.90	13.13	14.05	15.60	16.32
Trade	2.73	0.90	1.66	0.85	1.93	1.13
Hotels	0.39	0.31	0.58	0.40	0.86	0.90
Trans & comm	3.13	4.29	4.36	5.03	3.57	3.80
Finance	0.83	1.56	2.74	1.36	2.30	1.97
Real estate	4.96	6.84	3.79	6.41	6.94	8.51
Computer, R&D etc	2.85	5.08	2.18	4.48	6.06	6.82

Source: Eurostat use tables; authors' calculations.



Looking at changes over time in more detail, all countries became more service intensive between 1995 and 2005. The most pronounced changes took in fact place in the Czech Republic and Austria, the change being somewhat smaller in Poland and Hungary and even smaller in Slovakia and Slovenia. In most countries this was over-proportionately due to the service intensity of individual industries getting larger (i.e. the intensity term being more negative), with the only exceptions of Poland and Slovenia. In Poland, the structural term was more pronounced, i.e. a change towards a more service intensive output structure took place. In Slovenia too, the output structure became more service intensive, while the service intensity of individual industries slightly fell (i.e. the intensity term became positive). The shift towards a larger service intensity varied between countries and periods of time: In Hungary and Slovenia, the shift took place between 2000 and 2005. In Poland, changes in the output structure mostly happened between 1996 and 2000. In Austria and the Czech Republic, service intensities increased in both periods, with the pace of change slowing down in Austria in the second period, while speeding up in the Czech Republic.

### **Backward and forward linkages of service industries and key sector analysis**

Linkages, i.e. the interconnectedness of sectors among each other, have increased during the last decades. This is often illustrated by the example of manufacturing industry and services, between which interaction and linkages between have grown over time. Generally, two kinds of linkages occur in the framework of the input-output analysis: On the one hand, a sector needs inputs from other sectors. The interconnection of a particular sector with those 'upstream' sectors from which it purchases inputs is termed 'backward linkages'. The economic effect on other sectors is to be found on the demand side: 'If sector  $j$  increased its output, this means there will be increased demands from sector  $j$  (as a purchaser) on the sectors whose goods are used as inputs to production in  $j$ ' (Miller and Blair, 2009). On the other hand, a sector sells

its output to other sectors. This kind of interconnection of a particular sector with those 'upstream' sectors to which it sells its output is called 'forward linkages'. The economic effect is to be found on the supply side: 'If sector  $j$  increased its output, this means there will be increased supplies from sector  $j$  (as a seller) for the sectors that use good  $j$  in their production' (Miller and Blair, 2009).

Various measures have been proposed to calculate backward and forward linkages. An early and today still commonly used linkage index was suggested by Rasmussen in 1957, i.e. the 'power of dispersion' (backward linkages) and the 'sensitivity of dispersion' (forward linkage). Other modified indexes have been proposed in the literature later on (see e.g. Drejer, 2002). In order to identify 'key' sectors in the economy, i.e. those that are most connected and therefore most important in an economy, one can use these backward and forward linkage measures and select those industries with the highest measures. We applied the following classification as used widely in the literature:

- Key industries: strong forward and backward linkages
- Lead industries: weak forward and strong backward linkages
- Basic industries: strong forward and weak backward linkages
- Independent industries: weak forward and weak backward linkages

Looking at Rasmussen-backward linkage indexes (other indexes are presented in the paper), it turns out that only one service industry was amongst the top five industries in the whole economy in 2005 (except in the Czech Republic). However, the particular service industry found differed according to the country observed: Hotels & restaurants showed major backward linkages in Hungary and Slovenia, air transport in Austria, other transport in Slovakia. Interestingly, in the Czech Republic three service industries were among the top 5: insurance, other transport and sewage & disposal. When turning to service industries only, other transport is among the main five service industries, except in Hungary;

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sale of vehicles is also among the main service industries in three NMS.

Backward linkages of service industries have changed considerably as indicated by correlation coefficients between 1995 and 2005 for all countries. The only exception seems to be Hungary where the correlation coefficient is very high (0.94). Changes were moderate for Slovenia and Austria (correlation coefficient of 0.86) but not very pronounced for the Czech Republic and Slovakia (correlation coefficient of about 0.7). When comparing the new member states with Austria (2005), backward linkages seem to be similar across countries as the correlation coefficient is rather high between the new member states and Austria for the service industries: it ranges between 0.83 in Slovenia and 0.9 in the Slovak Republic. Linkages have become more similar between Austria and the new member

states between 1995 and 2005, with most convergence taking place in Slovakia.

When looking at forward linkage indices calculated with input coefficients, service industries are more prominent among the main industries with the largest linkages, as would have been expected. Services are important suppliers of inputs to other industries. When calculating the Rasmussen-linkage index, four service industries show up among the top 5 industries with the largest forward linkages in the total economy in Austria and three in each of the new member states except Slovenia (only 2). Other business services show the highest forward linkage index in all countries except the Slovak Republic (ranking second behind electricity). Wholesale trade also belongs to those industries with the largest forward linkages in the total economy.

Table 3

### Key service-sector analysis, 2005

		AT	CZ	HU	SK	SI
Sale of vehicles	50	lead	key	lead	lead	basic
Wholesale trade	51	key	key	key	key	key
Retail trade	52	lead	key	lead	key	key
Hotels & restaurants	55	basic	lead	lead	ind	lead
Land transport	60	key	key	key	key	key
Water transport	61	ind	ind	ind	ind	ind
Air transport	62	lead	lead	lead	lead	lead
Other transport	63	key	key	ind	key	key
Post & telecomm.	64	key	basic	basic	key	key
Financial intermediation	65	key	key	basic	basic	basic
Insurance	66	lead	lead	lead	lead	lead
Aux. Financial services	67	key	lead	key	ind	ind
Real estate activities	70	basic	key	basic	basic	basic
Renting of mach. & equ.	71	ind	lead	ind	lead	ind
Computer services etc.	72	lead	key	ind	lead	ind
R&D	73	lead	ind	ind	lead	ind
Other business services	74	key	key	basic	key	key
Public administration etc.	75	ind	ind	ind	ind	ind
Education	80	ind	ind	ind	ind	ind
Health and social work	85	ind	ind	ind	lead	lead
Sewage, disposal etc.	90	key	lead	lead	lead	ind
Organizations	91	lead	lead	lead	lead	lead
Culture	92	lead	lead	key	lead	lead
Other services	93	ind	ind	ind	ind	ind
Key industries		8	9	4	6	6
Leading industries		8	8	7	10	6
Basic industries		2	1	4	2	3
Independent industries		6	6	9	6	9

Notes: Key = key industry; lead = leading industry; basic = basic industry; ind = independent industry.

Source: Authors' calculations.

When looking at correlation coefficients across time for forward linkages of service industries, less dynamics can be observed compared to backward linkages. Correlation coefficients between 1995 and 2005 are very high (moderate changes can be observed in Austria and Slovakia only). In addition, differences between the new member states and Austria are small and have remained so over time. Again only Slovakia is slightly different from Austria.

Classifying service industries according to their backward and forward linkages in key, leading, basic and independent industries using the Rasmussen linkage indicator provides the following picture across the region for the year 2005 (see Table 3):

- Key service industries (strong forward and strong backward linkages) are wholesale trade, land transport, other transport and other business services.
- Leading industries (weak forward and strong backward linkages) are air transport, insurance, organisations and culture.
- Main basic industry (strong forward and weak backward linkages) is real estate activities.
- Independent industries (weak forward and weak backward linkages) are water transport, public administration, education and other services.

Overall, two major findings emerge from these results: First, community services are either independent industries (public administration, education, health and social services, other services) or leading industries (sewage & disposal, organisations, culture); meaning that both forward and backward linkages are either small or that only stronger backward linkages exist. Second and more interesting, it would have been expected from the former analysis that service industries are classified as basic industries as more service industries were found among the top 5 industries with high forward linkages than it was the case with backward linkages. This hypothesis cannot be supported as the number of basic industries is rather

small. This can be explained by the fact that those services with high forward linkages also possess strong backward linkages and hence are classified as key industries. Two industries, post & telecom and financial intermediation, have strong forward linkages and are either classified as key or basic under a range of countries.

When looking at the number of these different industries across countries in 2005 (see Table 3 at the bottom), one can find that most key industries were located in the Czech Republic (9) and Austria (8), the least in Hungary (4), while Slovakia and Slovenia lay in between with 6 key industries. The number of leading industries was highest in Slovakia (10) but also in the other countries the number was pronounced (6-8). Basic industries were less numerous in all countries (between 1 and 4); independent industries were most found in Hungary and Slovenia (9), but also in the other countries (6).

When looking at changes in the classification of industries over time, certain general trends but also marked country differences emerge: Between 1995 and 2005, the number of 'key' and 'leading' industries increased in Austria, the Czech Republic and the Slovak Republic, while that of 'basic' and 'independent industries' declined. This would point to an increase of backward linkages but also of forward linkages in these three countries. In Hungary and Slovenia, however, the number of 'key industries' stayed the same, that of 'leading industries' declined and the number of 'independent industries' grew. This would point to a decrease of backward linkages in these two latter countries rather.

### Conclusions

Overall, services play a major role in the economies of the countries under investigation: In Austria, services accounted for 60% of total output and 70% of total value added in 2005, while in the new member states (NMS) Czech Republic, Hungary, Poland, Slovakia and Slovenia shares ranged between 40-50% in output and 60-64% in value added respectively. Between 1995 and 2005, structural change towards services took place in the

NMS both on the production and use side. However, still major structural differences exist in comparison to Austria, which shows a higher dynamics than the NMS and turns out to be a moving target.

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## Intra-Visegrad Group trade after the EU accession\*

BY SÁNDOR RICHTER

### Rearrangement of export destinations

Since the EU accession in 2004 the mutual trade of the four Visegrad countries – the Czech Republic, Hungary, Poland and Slovakia (V-4) – has been expanding much faster than their trade with the ‘old’ EU members and also much more dynamically than before the accession. This is a new development requiring explanation considering the collapse of this trade in the early 1990s and its sluggish recovery prior to the EU accession. In 2007 the value of aggregate intra-V-4 trade was two and a half times higher than in 2003. In comparison, the growth rate of V-4 trade with the ‘old’ EU member states was only half as much.<sup>1</sup> In the post-accession years each of the V-4 countries had higher (in most cases substantially higher) export growth rates in trade with individual members of the group than in trade with the EU-15.<sup>2</sup> Also, individual V-4 countries showed higher export growth rates to other V-4 members in the post-accession period than in the years before EU accession.

These developments are reflected in changes in the geographical distribution of trade (Tables 1 and 2). While the relative significance of trade with other V-4 countries increased substantially both in the immediate pre-accession years (2000-2003) and the immediate post-accession years, the shifts were stronger in favour of intra-V-4 trade in the years after accession in the case of all four countries and in both exports and imports. The post-accession increment relative to the pre-accession increment in intra-V-4 trade was particularly remarkable for Hungarian and Slovak exports and

Czech imports. In 2007 the V-4 share in Hungarian exports and imports was already substantially higher than in 1985, then still under the extremely protectionist umbrella of the CMEA. The same is true for Polish intra-V-4 exports (the 2007 V-4 share in imports still lagged somewhat behind the 1985 share). No such comparison can be made for the Czech Republic and Slovakia, as these two countries still constituted one state back in 1985 and their trade was internal and not foreign trade. However, the recent changes are highly interesting. The share of intra-V-4 exports in total Slovak exports decreased significantly in the years before EU accession but underwent a strong revival after the accession. In imports intra-V-4 purchases made up one fifth of total Slovak imports in 2000; three years after the country’s EU accession this share was close to one third. In 2009 the value of Slovak imports from the V-4 group amounted to three quarters of the imports from the EU-15. Though less spectacularly, the relatively high share of the Czech Republic’s trade with the V-4 in its total trade reflect the survival of the Czech-Slovak special relations nearly two decades after the peaceful separation of the two states.

This clear increase in the relative significance of intra-V-4 trade for each member of the group must appear as a loss of relative significance for other trade partners. Data in Tables 1 and 2 testify that it was the EU-15 which lost some of its weight. In the case of exports the shrinkage of this group’s share accelerated substantially after the EU accession of the V-4 countries, except for Slovakia. The same shrinkage in significance of the EU-15 occurred in imports, too, but here it was somewhat slower after the EU accession in the case of two countries, the Czech Republic and Hungary.

All this implies that EU accession gave an important impetus to the mutual trade of the countries concerned. The sudden acceleration of the trade expansion cannot be explained just by the removal of trade barriers upon accession. Free trade for industrial commodities had been in place long before. Most of the restrictions on agricultural and food industry products had also been removed

\* This article is based on the preliminary results of the OeNB’s Jubilee Fund research project ‘Revival in the Visegrad countries’ mutual trade after their EU accession: a search for explanation’.

<sup>1</sup> The calculations cited are based on Eurostat data (COM-EXT).

<sup>2</sup> The only exception are Slovak exports to the Czech Republic (1 in 12 observations).

already by 1 May 2004, and this applies to trade with the EU-15 and intra-regional trade as well.

### Changes in the commodity patterns

#### *Trade by factor inputs*

Despite a similarly rapid expansion, individual intra-V-4 bilateral relations were of a diverging character concerning the composition of trade. One extreme was Hungary's excessive specialization in transport equipment and components in exports to the other three Visegrad Group countries. The other extreme was Slovakia, where the initial proportions across the main commodity groups hardly changed in the period of rapidly rising trade volumes. A comparison of the Czech Republic's exports to Hungary and Slovakia, respectively, testifies that strong specialization (in trade with Hungary) and the preservation of a diversified spectrum of commodities traded (in trade with Slovakia) were both successful options for a V-4 country to achieve a rapid expansion of its exports.

Separating the time span 2000-2007 into a pre-accession and a post-accession period does not reveal any outstanding changes in the composition of trade by *factor inputs* (such as e.g. labour or capital typically needed in the production of the goods traded). Though *technology-driven* industries gained substantially in importance over the whole time span, the process was gradual, with no significant change in the speed of the rearrangement after the EU accession. A less spectacular yet remarkable change (a drop) occurred in the weight of *capital-intensive* industries, but the date of EU accession seems to play no role in the process either.

In V-4 exports to the EU-15 only one group displayed a change related to the EU accession, namely that of the *labour-intensive* industries where the shrinkage of the group's share in total trade unambiguously accelerated in the post-accession years. The most important difference between the V-4 and the EU-15 as export destinations was that *technology-driven* industries figured as the dominant commodity group in exports to the

EU-15 in the whole time span, while – though spectacularly gaining in significance over the period concerned – they were substantially less important in intra-V-4 trade. The emerging picture probably reflects the change in attitude in export-oriented and engineering sector-based multinationals operating in the V-4. Earlier exports (often intra-firm deliveries) were predominantly deliveries from a production site in one of the V-4 countries to the mother company or to the markets in the EU-15, and to a much smaller extent to other V-4 countries. This attitude has started to change with the spectacularly growing deliveries of the same circle of exporters to affiliates and/or markets in other V-4 countries.

Hungarian export data suggest that this country is the main driving force behind the expansion of *technology-driven* industries in intra-V-4 trade. While in Hungary's exports to the EU-15 half of the turnover fell on this group over the whole period, in Hungary's deliveries to the other three V-4 countries the share of *technology-driven* industries nearly doubled and, by the end of the period, it also made up close to half of the deliveries. Remarkably, in Hungary's case the stormy expansion took place predominantly after the country's EU accession.

#### *Trade by skill intensity*

As for exports decomposed by *skill intensity* (i.e. distinguished by the skills of labour needed for their production), the date of accession does not seem to have had any special impact: the trends already present before EU accession were carried on without substantial changes.

Shifts in the composition of intra-V-4 exports reflect an upgrade of the export structure by skills. The share of *low-skill* industries shrank over the period concerned. Nevertheless, in intra-V-4 trade *low-skill* industries still amounted to more than a third of the total turnover, substantially more than the respective share in V-4 exports to the EU-15. On the other extreme of the scale, *high-skill* industries were significantly more relevant in exports to the EU-15 than to the other V-4 countries, and the shift in favour of this segment's share in total trade was

more formidable in the case of EU-15 destinations than in the case of other V-4 destinations. All in all, the general picture is that the V-4 countries' exports to the EU-15 reflect a more advanced economy (in terms of skills) than trade within V-4.

A comparison of intra-V-4 and intra-EU-15 trade flows in terms of composition by skill intensity reveals two striking differences. First, *low-skill* industries make up one third of the former and only one fifth of the latter trade flows. Second, the weight of *high-skill* industries is twice as high in intra-EU-15 trade (21-22%) as in intra-V-4 trade (9-10%). These unfavourable proportions for V-4 did not change over the whole period concerned.

#### *Revealed comparative advantage*

The well-known indicators of revealed comparative advantage (RCA) were calculated for the period 2000-2007. The RCA indicators for NACE 2 manufacturing industries show a continuous rearrangement over the years but only some of these changes were related to EU accession. In the individual V-4 countries' trade with the other three members of the V-4 four industries (in Poland) to eight industries (in Hungary) of the altogether 22 industries' RCA indicators were seemingly influenced by the EU accession. It is remarkable that the Czech Republic, the country with the oldest industrial tradition in the V-4, showed an unfavourable change in RCA indicators in the *office machinery and computers* and the *motor vehicles* industries, while an improvement of RCA values was recorded for Hungary and Slovakia in the former and for Poland in the latter industries. Interestingly, *food products and beverages*, the only industry where quantitative restrictions were in place in intra-V-4 (then also intra-CEFTA) trade up until EU accession, appear only in the case of Hungary as an area where EU accession turned the revealed comparative advantage of the country before accession into a revealed comparative disadvantage after the accession. Similar restrictions were still valid in V-4 trade with the EU-15 up until EU enlargement. Here the accession had the same above-mentioned impact in the case of Hungary, but the liberalization of trade in this commodity group had the opposite impact on

Poland's and Slovakia's food trade, their RCA indicators pointing to a considerable improvement after EU accession.

RCA indicators calculated for industries by factor intensity reveal that in individual V-4 countries' trade with the other V-4 members few significant changes occurred around the date of EU accession. What is worth mentioning is Hungary's RCA improvement in *technology-intensive industries* and the deterioration of RCA values in *capital-intensive industries* from 2004 onwards. In the case of Poland a strong process of RCA improvement in *labour-intensive industries* suddenly stopped and got flat after EU accession, and in *technology-intensive industries* a strong deterioration was halted and turned into a strong (but short-lived) improvement in the year of Poland's EU accession. Other interesting features, not directly related to the EU accession, were the permanently positive RCA indicators in *technology-intensive industries* in the case of the Czech Republic and Hungary, and the negative RCA values for this segment in the case of Poland and Slovakia. In *labour-intensive industries* Hungary had strongly negative, while Poland significantly positive RCA indicators in the period concerned, as quasi mirror images of the RCA indicators in *technology-intensive industries*.

In trade with the EU-15 the V-4 countries had highly positive RCA values in *labour-intensive industries*, which play an extremely important role in counterbalancing the negative RCA positions in other industries. The only exception is Hungary where *technology-intensive industries* had substantially higher positive RCA values than in the other V-4 countries. From 2006 on Slovakia seemed to follow the Hungarian pattern and showed a more impressive composition of RCA indicators than its 'big brother', the Czech Republic.

Investigating the changes in RCA indicators in intra-V-4 trade by skill intensity, the results do not display any remarkable shifts related to the EU accession either. Hungary and the Czech Republic remained in the terrain of substantially positive RCA in *high-skill industries*, and as a mirror image,

Poland and Slovakia remained in the extreme negative area in this segment. The opposite was the case with *low-skill industries*, where Poland and Slovakia had a revealed comparative advantage and the Czech Republic but even more so Hungary displayed a strong revealed comparative disadvantage. Concerning trade with the EU-15, the technology gap of the V-4 vis-à-vis the EU-15 is clearly visible from the deeply negative RCA indicators for *high-skill industries*, except for the Czech Republic. A good marker for the characteristic division of labour between the V-4 countries and the EU-15 is the curve of the *medium-skill/blue-collar workers' industries*. This segment had highly positive RCA indicators over the whole period for all V-4 countries' trade with the EU-15. It is also remarkable (and positive) that *low-skill industries* had a growing revealed comparative *disadvantage* in the case of all four countries.

### Concluding remarks

Finally, the question should be raised what more do we know now, after concluding the research, about the reasons for the exceptional acceleration of intra-V-4 trade after EU accession. Though invisible administrative barriers may have been removed upon accession, these had to take place in trade with the EU-15, and in that relation the export expansion lagged considerably behind that of intra-V-4 trade. Moreover, V-4 exports to the rest of the world increased more rapidly after EU accession than to the EU-15.

Another possible factor in the upturn of mutual trade after EU accession, a sudden upgrading of the transport infrastructure, was not registered either. The Czech-Slovak connection had been sufficient even before. The North-South corridor Poland – Slovakia – Hungary and the North-South-West corridor Poland – Czech Republic did not undergo any major extensions.

The indicators show that the EU accession has not brought about any abrupt changes in the commodity patterns and revealed comparative advantages. In the bilateral trade relations, the changes observed were typically continuous and gradual, extending over the whole period 2000-2007. However, EU accession may have had an indirect impact on the mutual trade upturn. As the accession year (2004) drew near, this spurred the elaboration of new export strategies/destinations: the perceived status of exporting firms may have been mutually upgraded. They became both targets for sales, sources of deliveries and partners for production cooperation. Intra-firm trade (also among the local daughters of multinationals) must have played an important role in all this.

Finally, one can observe that the 'transition-related' collapse of the mutual trade (in the early 1990s) has been reversed in the 2000s. Mutual trade among V-4 countries has risen to higher levels that correspond more closely to their mutual geographical proximities.



Table 1

Geographical distribution of the Visegrad countries' trade in selected years

in %

Reporting country	Exports					Imports				
	2000	2003	2004	2007	2009	2000	2003	2004	2007	2009
<b>Czech Republic</b>										
Hungary	1.9	2.3	2.6	3.1	2.5	1.6	2.0	2.1	3.0	2.4
Poland	5.4	4.8	5.1	5.9	5.8	3.6	4.1	4.8	6.3	7.0
Slovakia	7.7	8.0	8.3	8.7	9.0	6.1	5.2	5.5	6.3	6.6
<b>Visegrad</b>	<b>15.0</b>	<b>15.0</b>	<b>16.0</b>	<b>17.7</b>	<b>17.3</b>	<b>11.4</b>	<b>11.3</b>	<b>12.4</b>	<b>15.6</b>	<b>15.9</b>
EU-15	68.5	69.8	68.7	64.4	64.2	62.8	58.9	66.6	63.1	59.7
Rest of the world	16.5	15.1	15.3	17.9	18.5	25.9	29.8	21.0	21.4	24.4
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>Hungary</b>										
Czech Republic	1.7	2.1	2.4	3.8	3.2	2.0	2.4	2.8	3.5	3.6
Poland	2.1	2.3	2.9	4.2	3.8	2.0	2.8	3.2	3.9	4.1
Slovakia	1.0	2.0	1.9	4.2	5.0	1.8	1.9	2.0	3.0	4.1
<b>Visegrad</b>	<b>4.8</b>	<b>6.3</b>	<b>7.2</b>	<b>12.1</b>	<b>11.9</b>	<b>5.8</b>	<b>7.1</b>	<b>8.1</b>	<b>10.5</b>	<b>11.8</b>
EU-15	75.1	73.7	70.7	59.6	59.1	58.4	55.0	57.8	55.6	53.3
Rest of the world	20.0	20.0	22.2	28.3	29.0	35.7	37.9	34.1	34.0	34.8
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>Poland</b>										
Czech Republic	3.8	4.0	4.3	5.5	5.8	3.2	3.4	3.8	3.9	4.0
Hungary	2.1	2.4	2.6	2.9	2.7	1.6	1.8	2.0	2.2	1.9
Slovakia	1.4	1.6	1.8	2.2	2.3	1.5	1.5	1.6	1.9	2.4
<b>Visegrad</b>	<b>7.2</b>	<b>8.1</b>	<b>8.7</b>	<b>10.6</b>	<b>10.8</b>	<b>6.3</b>	<b>6.8</b>	<b>7.4</b>	<b>8.0</b>	<b>8.3</b>
EU-15	69.9	68.8	67.3	62.9	64.0	61.1	61.1	65.6	63.3	61.8
Rest of the world	22.9	23.1	24.0	26.5	25.2	32.6	32.1	27.0	28.7	29.9
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>Slovakia</b>										
Czech Republic	17.2	12.8	13.4	12.6	12.9	14.9	14.4	18.4	17.3	18.8
Hungary	4.9	4.9	5.2	6.0	6.4	2.1	3.4	3.8	6.7	7.1
Poland	5.9	4.8	5.5	6.2	7.2	3.1	3.5	4.3	4.9	4.9
<b>Visegrad</b>	<b>28.0</b>	<b>22.5</b>	<b>24.1</b>	<b>24.8</b>	<b>26.6</b>	<b>20.1</b>	<b>21.4</b>	<b>26.5</b>	<b>29.0</b>	<b>30.8</b>
EU-15	59.2	60.8	59.6	58.3	55.8	49.1	51.5	50.8	43.9	41.9
Rest of the world	12.8	16.7	16.3	17.0	17.6	30.8	27.1	22.6	27.1	27.3
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Own calculations based on COMEXT trade database.

Table 2

## Changes in the geographical distribution of the Visegrad countries' trade in selected years

in percentage points

Reporting country	Change in exports shares		Change in imports shares		Post accession change relative to pre-accession change	
	Pre-accession 2000/2003 (a)	Post-accession 2004/2007 (b)	Pre-accession 2000/2003 (c)	Post-accession 2004/2007 (d)	Exports (b)-(a)	Imports (d)-(c)
<b>Czech Republic</b>						
Hungary	0.4	0.5	0.4	0.9	0.1	0.5
Poland	-0.6	0.8	0.5	1.4	1.4	0.9
Slovakia	0.3	0.4	-1.0	0.8	0.1	1.8
<b>Visegrad</b>	<b>0.0</b>	<b>1.7</b>	<b>0.0</b>	<b>3.1</b>	<b>1.6</b>	<b>3.2</b>
EU-15	1.3	-4.3	-3.9	-3.5	-5.6	0.3
Rest of the world	-1.3	2.6	3.9	0.4	3.9	-3.5
<b>Hungary</b>						
Czech Republic	0.4	1.4	0.4	0.7	1.0	0.3
Poland	0.1	1.3	0.7	0.7	1.2	0.0
Slovakia	0.9	2.2	0.2	1.0	1.3	0.9
<b>Visegrad</b>	<b>1.4</b>	<b>5.0</b>	<b>1.3</b>	<b>2.4</b>	<b>3.5</b>	<b>1.1</b>
EU-15	-1.5	-11.1	-3.4	-2.2	-9.6	1.1
Rest of the world	0.0	6.1	2.1	-0.2	6.1	-2.3
<b>Poland</b>						
Czech Republic	0.3	1.2	0.2	0.1	1.0	-0.2
Hungary	0.4	0.3	0.2	0.2	0.0	0.0
Slovakia	0.2	0.4	0.1	0.3	0.2	0.3
<b>Visegrad</b>	<b>0.8</b>	<b>1.9</b>	<b>0.5</b>	<b>0.6</b>	<b>1.1</b>	<b>0.1</b>
EU-15	-1.0	-4.4	0.0	-2.3	-3.4	-2.3
Rest of the world	0.2	2.5	-0.5	1.7	2.3	2.2
<b>Slovakia</b>						
Czech Republic	-4.4	-0.9	-0.5	-1.1	3.6	-0.6
Hungary	0.0	0.8	1.3	2.9	0.8	1.6
Poland	-1.1	0.8	0.5	0.7	1.8	0.2
<b>Visegrad</b>	<b>-5.5</b>	<b>0.7</b>	<b>1.3</b>	<b>2.4</b>	<b>6.2</b>	<b>1.1</b>
EU-15	1.5	-1.4	2.4	-6.9	-2.9	-9.3
Rest of the world	4.0	0.7	-3.6	4.5	-3.3	8.1

Source: Own calculations based on Table 1.

## FDI among the Visegrad countries before and after EU accession\*

BY GÁBOR HUNYA

The four Visegrad countries (the Czech Republic, Hungary, Poland and Slovakia, V-4 hereafter) embarked on an FDI-assisted economic growth strategy in the 1990s. Hungary introduced this policy already at the beginning of the decade by providing investment incentives and targeting foreign investors in the privatization process. The other countries followed later but by 2000 all V-4 were significant FDI receivers. Most of the FDI came from the EU-15 and went both into efficiency seeking manufacturing subsidiaries and local market oriented trade, telecommunication and financial ventures.

The capital account liberalization and the free trade of goods allowed both foreign investors to access the Visegrad countries and also companies in the V-4 to access each other well before EU enlargement. Investment decisions took account of the forthcoming EU membership long before it actually happened. Considering also the preparation period of an FDI decision, one cannot expect that the accession date in itself would have changed the behaviour of investors. Studies have actually not found any dramatic changes in the intensity of FDI flows due to enlargement. Instead, intensified FDI inflows were identified rather during the years of the accession negotiations when the EU anchor reduced the level of investment risk and when trade liberalization and the step-by-step adoption of EU rules took place. Some changes related to accession did not foster FDI: The rules for attracting FDI were also harmonized in the EU by applying the common competition rules, and discretionary incentives were phased out. Hungary and Poland had granted especially generous incentives which were terminated when these countries joined the EU.

Changes following the enlargement could be identified in the specialization of subsidiaries. With not much additional investment, the type of subsidiaries turned from single country orientation to regional competence. A rationalization of subsidiaries took place, resulting in fewer locations serving several countries in the region. This had a trade enhancing impact among the countries. That specialization however was not reported in the mutual FDI between the V-4 but for the activity of large multinational companies from the more developed countries.

### FDI flows between the Visegrad countries before and after EU accession

In the following we look at available data on total inward and outward FDI flows to and from each of the V-4 and the share of mutual FDI in total FDI flows. Efforts have been made to set up a comprehensive and comparable database by using National Bank data and also contacting National Banks for supplementary information.

#### Box 1

A number of statistical problems are related to the very simple exercise of summarizing FDI inflow and outflow data by investing countries. Data are fully consistent only for the Czech Republic. For Poland and Hungary FDI data availability by country is lower than the total. For these countries our 'total FDI' means the sum that can be broken down by country. For Hungary data exclude investments of special purpose enterprises (SPEs) while for Poland they include SPEs since 2004. The other two countries do not disclose their attitude related to SPE investments. 2000 data for Poland are not available, therefore data for 2001 were taken also for the previous year. For Slovakia FDI by countries has been obtained from the Slovak National Bank in the framework of this project. They have a full coverage of all forms of flows since 2003 while for the preceding years they cover only equity capital.

\* This article is based on the preliminary results of the OeNB's Jubilee Fund research project 'Revival in the Visegrad countries' mutual trade after their EU accession: a search for explanation'.

### *Czech Republic*

FDI inflows to the Czech Republic increased in the late 1990s and culminated in 2002 with EUR 9 billion, followed by a drop to 1.9 billion in 2003. In the period 2000-2003 FDI inflows totalled EUR 22.6 billion. Inflows rose again to EUR 9.4 billion in 2005, fell to half this amount in the subsequent year and grew again in 2006 and 2007. Thus, in the period 2004-2007 the cumulated inflow was EUR 25.8 billion, 14% more than in the pre-accession period. Meanwhile GDP grew as well and so did gross fixed capital formation. Due to the economic development, the FDI inflow as a percentage of gross fixed capital formation was lower in the post-accession period than prior to it. The fluctuations of the FDI inflow may have been influenced both by the prospects and the actual fact of EU membership, but they were fundamentally driven by other forces: These include global processes such as the impact of the dotcom crisis in 2003 and domestic processes such as major privatization deals. FDI inflows to the Czech Republic from the V-4 roughly followed the overall FDI trend. On the whole they increased with time. The share of the V-4 in the total inflow was 2.1% in the four years prior to accession and 7.0% following accession. While overall FDI rose only by 14% between the two periods, FDI from the V-4 increased almost fourfold.

There were, however, large differences between the inflows from the three countries. Most of the V-4 FDI to the Czech Republic came from Slovakia, particularly before EU accession. This was due to the cross-ownership of companies and the interest in mutual investments following the split of the Czechoslovak state. The dominance of this special relationship has remained but weakened after EU accession. First of all FDI from Poland expanded, starting from an almost negligible level. There was a one-time jump in 2005, but also in subsequent years significant inflows from Poland were booked. Investments from Hungary were twice as high before than after EU enlargement. The peak years were 2000 and 2002 while in 2003 and 2004 the repatriation of capital dominated over

new investments and the FDI stocks reached in 2002 could be surpassed only in 2006.

It must be noted that FDI inflows from other accession countries to the Czech Republic also increased. Particularly important was the increase from Cyprus, the country which has been the source of FDI in a similar magnitude as Slovakia. Cyprus, a popular tax haven, can be the home country of round-tripping (Czech capital) and indirect investments (Russian capital). Outward FDI from the Czech Republic also increased in the post-enlargement period and here the V-4 had a very important role with a share rising from 16% to 27% of the total outflow. Still, overall outward FDI is very low as compared to the inflow of FDI. Within this, the relationship with the V-4 is more balanced. The coverage of V-4-related inflow by outflow increased from 22% prior to enlargement to 47% following enlargement. The net balance of Czech FDI with the other three countries was negative except in one of the eight years, 2001. The most significant net capital inflows came from Slovakia, while FDI flows with the other two countries were closer to balance. It is worth noting that the most developed country of the V-4 is a net capital importer from the other, less developed countries. This may point to particularly weak firm-specific advantages of the Czech companies.

### *Hungary*

Hungary was another significant receiver of FDI all through the transformation process, both before and after EU accession. The overall increase from EUR 12.5 billion to EUR 19.4 billion was higher than in case of the Czech Republic. An exact comparison of the inflow from the V-4 is not possible due to lack of data for 2000. Assuming that in that year the inflow was the same as in 2001, the cumulative inflow in the four pre-accession years was EUR 53.9 million, slightly more than in the post-accession period with EUR 53.2 million. The share of the V-4 never exceeded 0.3% of the total inflows, except in 2003 because of relatively high investments from Slovakia in that year. The picture is completely different if it comes to outward FDI

from Hungary into the other three countries. Total FDI outflows from Hungary increased from EUR 2.8 billion in the pre-accession period to EUR 8.4 billion in the post-accession period, mainly to the less developed Southeast European countries. Compared with inflows this means a significant shrinking in Hungary's net-FDI position. At the same time, FDI to the V-4 rose from EUR 684 million to EUR 808 million, which was a much smaller increase than in the total FDI outflow. On the one hand, Hungary has maintained and strengthened its net investor position vs. the other three countries, but on the other hand, Hungarian investors increasingly turned to other countries as FDI destination after EU enlargement. The most significant destination of Hungarian outward FDI in the V-4 has been Slovakia in both the pre- and the post-accession period. The peak years were those just around enlargement, 2003 and 2004, when Slovakia privatized its oil company selling shares to Hungary's MOL. FDI to Poland was more significant in 2004 than in any other year under survey.

#### *Poland*

In Poland EU accession and the related transformation steps gave a boost to FDI. It more than doubled from EUR 25.1 billion in the pre-accession period to EUR 51.6 billion in the post-accession period. This country was somewhat late compared to the Czech Republic and Hungary in receiving large amounts of FDI due to delayed privatization. But restructuring and privatization of the public sector speeded up around EU accession while foreign retail chains and commercial banks spread out their operations. The inflow of FDI from the other three V-4 countries has been negligible despite a significant increase from EUR 109 million (0.4% of the total) to EUR 339 million (0.6% of the total). Hungary was by far the strongest investor in both periods. Outward FDI from Poland underwent an even stronger increase than inflows, albeit from a very low level. In the pre-accession period the total outflow was only EUR 418 million of which 8.8% went to the V-4. In the post-accession period outflows jumped to EUR 14.7 billion and the net position increased to as much as 28% of the out-

flows. The share of the V-4 declined to 8.1% after a significant increase to EUR 1188 million. The most prominent destination was the Czech Republic with 80% of the outward FDI outflow.

#### *Slovakia*

In Slovakia the cumulated FDI inflow (covering all forms) was equal in the pre- and post-accession periods, around EUR 10 billion. Annual fluctuations were similar as in the other countries, with a peak in 2002 (EUR 4.4 billion), a setback in 2003 (EUR 1.9 billion) and another, lower peak in 2006 (EUR 3.7 billion). These fluctuations do not seem to be linked to the date of the EU accession. The value of FDI by countries is not available for the pre-accession period but only for the post-accession years when investments from the V-4 amounted to EUR 1508 million, 14% of the total. About two thirds of this amount came from the Czech Republic and one third from Hungary while Polish investments were of a negligible amount. FDI from the V-4 in the pre- and post-accession years can only be compared based on the equity capital inflow. Total equity investment was higher in the pre-accession period (EUR 9 billion) than in the post-accession one (EUR 4.3 billion). The declining share of equity investment in the total is according to the rule as in the initial period of FDI new ventures are set up from equity inflow. In later years, when foreign investment enterprises are becoming profitable, they also finance investments from retained profits. In addition, a fluctuating amount of inter-company loans also appears. The share of the V-4 in the inflow of equity FDI to Slovakia in the pre-accession period was 31%, the highest among the four countries. 60% of the inflow came from the Czech Republic and the rest from Hungary while Polish investments were again negligible. Most of the Czech FDI came in the year 2002 whereas the inflows from Hungary were more evenly distributed among the years, with the highest value in 2000 when the oil company MOL took over its Slovak counterpart Slovnaft. In the post-accession period the inflow from the V-4 shrank to 13.4% of total equity investment, less than in the case of FDI by all forms.

As for FDI outflows from Slovakia, in the post-accession period the total FDI outflow was EUR 949 million, 8.8% of the inflow, showing that Slovakia is a massive net importer of capital. The V-4 were among the main recipients (46%) of Slovak outward FDI; nearly the total amount went to the Czech Republic. A comparison with the pre-accession period based on equity FDI shows a five-time increase of Slovak outward FDI while that to the V-4 only doubled. The share of V-4 destinations –which almost exclusively meant the Czech Republic – declined from 70% to 27%. Thus, while prior to EU enlargement the former common state attracted investments, after the enlargement and the total capital liberalization other destinations opened up as well and diverted Slovak investments. Still the Czech Republic accounted for two thirds of the Slovak outward FDI stock in 2007.

*Summary of country trends in the pre- and post-accession period*

After EU accession the amount of FDI inflow from the V-4 was higher than before in all countries – only marginally in Slovakia, very much so in Poland. The FDI volume and the share of inflow from the V-4 increased in the Czech Republic and in Poland, remained at roughly the same level in Hungary, and declined in Slovakia. The total amount of mutual FDI was approximately equal in the two periods. Thus, EU enlargement did not have a special FDI inflow enhancing role for the Visegrad countries.

The amount of FDI outflows was in all countries significantly higher in the post-accession period

than before. The outflow to the V-4 increased significantly from the Czech Republic and Poland, less so from Hungary, and declined from Slovakia. The largest investor in the post-accession period was Poland, followed by Hungary. In the pre-accession period FDI in the V-4 made up a large part of the outflows from the Czech Republic, Hungary and Slovakia but in the post-accession period it retained its significance only for the Czech Republic. Except for Poland, starting from a very low share, the importance of FDI into the V-4 diminished in outward FDI.

Box 2

Common sense would suggest that in a closed circle of countries, mutual inflows and outflows are equal, as what is inflow for the one country is outflow for the others. However, statistics do not comply with this rule of thumb. Global FDI outflows in 2007 were 9% higher than global inflows. The smaller the group of countries, the larger the discrepancy. Among the Visegrad countries, pre-accession inflows were more than three times higher than outflows. In the post-accession era the discrepancy shrank to 29%.

**Changes in mutual FDI stocks by economic activities**

While the previous section was based on flows and showed fluctuations and trends in time in the pre- and post-accession era, a breakdown by economic activity is best organized based on the FDI stock. We compare two years, 2003 and 2007, for both inward and outward stocks and look at the changes in the shares of the main invested industries and countries.

Table 1

**FDI inflows to the Visegrad countries in the pre-accession period (2000-2003, cumulated) and the post-accession period (2004-2007, cumulated)**

	Czech Republic		Hungary		Poland		Slovakia	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Total, EUR billion	22.6	25.8	12.5	19.4	25.1	51.6	10.2	10.6
Visegrad, EUR billion	0.47	1.82	0.05	0.05	0.07	0.33	2.82	1.51
Visegrad, in % of total	2.1	7.1	0.4	0.3	0.3	0.6	27.5	14.2

Source: wiiw Database on FDI, relying on the National Banks of individual countries.

Table 2

**FDI outflows from the Visegrad countries in the pre-accession period (2000-2003, cumulated) and the post-accession period (2004-2007, cumulated)**

	Czech Republic		Hungary		Poland		Slovakia	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Total, EUR billion	0.63	3.16	2.82	8.42	0.42	14.7	0.44	0.95
Visegrad, EUR billion	0.19	0.86	0.68	0.81	0.02	1.12	0.13	0.09
Visegrad, in % of total	30.2	27.2	24.1	9.6	4.8	7.6	29.5	9.5

Source: wiiw Database on FDI, relying on the National Banks of individual countries.

First we look at the change in stocks as an alternative to the previous comparison of cumulated flows. Stocks refer to the end of the year, they include also FDI from before 2000, reflect changes in asset valuation and cumulate inflows in national currency. Stocks of inward FDI from the V-4 were very low in the Czech Republic, Hungary and Poland although its share in the total inward stock increased between 2003 and 2007. A high but declining share was registered in Slovakia. As to the outward FDI stocks of the V-4, they increased significantly in nominal EUR terms but with declining shares in the total in the case of the Czech Republic and Hungary, reaching about 29%. From Poland and Slovakia increasing shares of outward FDI stocks were located in the region. For the latter country the V-4 represent the overwhelming majority of the outward FDI stock while for Poland the regional specialization is weak.

Inward stock data reveal that the most significant investors both before and after the enlargement are Slovakia in the Czech Republic, the Czech Repub-

lic in Slovakia, and Hungary in Slovakia. All other bilateral stocks are much lower. The most significant increase in inward stocks was booked in Poland. In general, outward FDI statistics usually report higher stocks in a country than the inward stock of the same country. As an outlier, Slovakia reports much lower FDI to the Czech Republic than the Czech inward statistics.

Data on the activity composition of the FDI stock are not available for all bilateral relations. They are most complete for the Czech Republic and Hungary. The aim of the description of available data is to find out whether FDI goes into the tradable or the non-tradable sectors. Naturally, a significant share of FDI in the tradable sectors, first of all manufacturing, still provides only the potential for generating exports to the V-4. There is no proof whether this potential actually materializes.

*Czech Republic*

The *Hungarian* FDI stock in the Czech Republic increased from EUR 114 to EUR 215 million from

Table 3

**FDI inward stock from Visegrad countries, EUR million (based on host country reporting)**

HOME	Czech Rep.		Hungary		Poland		Slovakia		Total from Visegrad		Visegrad in % of total inward stock	
	2003	2007	2003	2007	2003	2007	2003	2007	2003	2007	2003	2007
Czech Rep.			114	215	46	1297	402	1380	562	2892	1.6	3.8
Hungary	9	46			3	13	2	37	14	96	0.0	0.2
Poland	51	387	91	206			43	94	185	687	0.4	0.6
Slovakia	740	1765	774	1605	3	35	1517		1517	3405	17.9	11.7
(V-4)	800	2198	979	2026	52	1345	447	1511	2278	7080		

Source: wiiw Database on FDI, relying on the National Banks of individual countries.

Table 4

**FDI outward stock from Visegrad countries, EUR million (based on home country reporting)**

HOST	Czech Rep.		Hungary		Poland		Slovakia		Total in Visegrad		Visegrad in % of total outward stock	
	2003	2007	2003	2007	2003	2007	2003	2007	2003	2007	2003	2007
Czech Rep.			6	32	37	370	544	1325	587	1727	32.5	29.7
Hungary	81	122			59	242	588	2796	728	3160	28.7	28.0
Poland	68	880	11	202			2	51	81	1133	4.8	8.6
Slovakia	316	741	35	27	39	76			390	844	58.8	66.6
(V-4)	465	1743	52	261	135	688	1134	4172	1786	6864		

Source: wiiw Database on FDI, relying on the National Banks of individual countries.

2003 to 2007. The share of the most important activity, the chemical industry, rose from 33% to 46%. As a new field of activity, the production of non-metallic minerals accounted for 18% in 2007; car production rose to 3%. A major loser but still significant investment target was health and social work, the share of which fell from 25% to 17% while booking an increase in nominal terms. The main losers were the sector hotels and restaurants, with a share falling from 15% to 3%, and the food industry, down from 8% to 2%. Construction, with a share of 12% in 2003, disappeared. On the whole, FDI after EU enlargement became more diverse in and more concentrated on the manufacturing activities than before. This has created the potential for trade.

FDI from *Poland* into the Czech Republic started increasing after EU accession; stocks rose 27-fold to EUR 1.3 billion between 2003 and 2007. Still there is no meaningful information about the sectoral composition as more than 80% went into 'other business activities' (NACE 7.2) which are usually comprising companies with no real activity in the host economy. Thus the merit of EU accession was full capital account liberalization by which Polish capital could place some of the financial assets outside the country. Such FDI does not generate trade.

The stock of *Slovak* FDI in the Czech Republic increased from EUR 402 million before enlargement to EUR 1380 million in 2007. In both periods, the FDI stock was spread across several activities with the highest weights for oil and petroleum, me-

chanical engineering, construction and wholesale trade. Following accession, the oil industry disappeared and wholesale trade, other business activities and total manufacturing (mainly mechanical engineering and steel products) became the largest segments with around 17% each. Energy generation, construction, real estate development and financial intermediation held shares between 5% and 10% each. This diversity may indicate an integration between the two countries at the corporate level which may also be reflected in intensive trade activities.

The outward FDI stock of Czech investments is not available by host country.

#### *Hungary*

For Hungary a comparison of inward and outward FDI stocks for 2003 and 2007 is available but only for equity capital and reinvested earnings. Thus the coverage of data is only partial compared with the total stock. Inward stock (equity and reinvestment) from the *Czech Republic* was EUR 9 million in 2003, most of it in wholesale and retail trade. In 2007 the stock increased to EUR 46 million, of which 60% was in trade. Manufacturing accounted for 14%, mainly the textile and chemical industries. Construction as well as real estate and other business activities took about 10% each. Inward stock from *Poland* was only EUR 3 million in 2003 but increased to EUR 13 million in 2007. Almost the total amount of new stocks was registered in trade (retail, wholesale and motor vehicles). *Slovak* FDI stock rose from EUR 2 million to EUR 37 million.



While before enlargement the food industry accounted for nearly the entire investment, after enlargement food industry FDI became just a little larger and lost its prime position. The most important manufacturing activity became the production of non-metallic minerals (together with food 44%). As for services, two activities are important in 2007: trade and transport. On the whole the composition of inward FDI in Hungary does not indicate trade creation.

Hungarian outward FDI stock to the *Czech Republic* increased from EUR 81 million in 2003 to EUR 146 million in 2007. Before enlargement the main activities were the chemical industry (47%), the food industry (16%), hotels and restaurants (30%) and trade (4%). After accession the food industry disappeared, the positions of the other activities remained roughly the same (chemical industry: 41%, hotels and restaurants: 32%) and trade was stocked up to 21%. (In the Czech inward statistics, there is no indication of FDI in health and social work.) The FDI stock to *Poland* increased from EUR 59 million to EU 242 million and manufacturing remained the most important activity. Chemicals and paper ranked high on the list in both years, but following enlargement activities became more diversified including electrical and optical equipment and non-metallic minerals. *Slovakia* was the most important destination of Hungarian FDI in the region both before EU accession (EUR 558 million) and thereafter (EUR 2796 million). Manufacturing dominated in both years, even increasing its share from 87% to 92%, but this was almost exclusively in the petroleum industry – due to the fact that the Hungarian oil company MOL owns the Slovak oil company Slovnaft. Beyond that, only the investment in financial intermediation was of significance, again due to one single investment of the savings bank OTP which has a subsidiary in Slovakia. Hungarian outward FDI went to a large part into tradable sectors, implying the potential of trade creation.

#### *Poland*

No FDI data on economic activities by home/host countries could be obtained.

#### *Slovakia*

Data on inward FDI stock from the Visegrad countries are only available for 2007, thus a comparison with the pre-accession years is not possible. FDI from the main investing country, the *Czech Republic* (EUR 2.2 billion, more than what the Czech statistics report as outward stock), went into divers activities. This is a similar to Slovak FDI in the Czech Republic. The most important activities with 20-25% each are manufacturing, financial leasing and wholesale. The chemical industry is the most important activity among the manufacturing industries. *Hungarian* FDI in Slovakia (EUR 1.6 billion at the end of 2007, just half of what Hungary records as outward stock there) is not published by economic activity as there are less than three companies in a branch. In the rather small *Polish* FDI stock the food industry takes the largest share.

As for outward investment from Slovakia, the most important destination is the *Czech Republic*. The activity with the largest share in the 2007 stock is rather unusual, 'legal advice' with 27%. It is followed by electricity generation (14%), the production of non-metallic minerals (12%) and trade/repair of motor vehicles (10%). The manufacturing industries together have a much smaller share than reported in the Czech outward FDI statistics. Trade and repair of motor vehicles is the most important activity of Slovak FDI in *Hungary* and *Poland*.

#### *Summary of economic activities*

The conclusions from the contradictory and incomplete data on the changing activity composition of the mutual FDI stock among the Visegrad countries are the following:

- FDI stocks have increased after EU enlargement in specific activities related to single multinationals of the individual countries. This is first of all the case for Hungary, with the oil company MOL and the commercial bank OTP as the main investors; in addition, the pharmaceutical company Gedeon Richter and the chemical industry enterprise BorsodChem have to be named. These are all former state-owned en-

terprises which were not privatized to a foreign owner but through the stock exchange to diverse investors. The energy company CEZ from the Czech Republic is also in the same category.

- FDI in tradable sectors account for a significant part of total FDI, but one cannot see whether trade creation really takes place. The most frequented industrial sectors are not those that are known for international cooperation but those that usually target the local market of the host country.
- The production of construction materials, chemicals and the construction industry appear as wide-spread activities in most bilateral investments. Car producers in the region often distribute and repair their products through subsidiaries, but subsidiaries do not invest in production abroad.

### Relevance of FDI for trade

The structure of activities of the FDI and of the investment projects indicates that FDI among the V-4 could allow for some trade generation but it most possibly serves the local market of the host economy. Market seeking is the dominant answer of investors to the question concerning the motivation for their new investment project (<http://www.fdimarkets.com>). This means that V-4 investors use their firm-specific advantages to penetrate new markets by FDI but do not expect exports from there. This type of FDI substitutes trade. It may generate some imports for the host economy but does not lead to more exports. For the home country it may generate some exports.

Thus the FDI among the V-4 differs to a large extent from the FDI these countries have received from other countries. About 40% of the total stock has been invested in tradable sectors and shows a strong export orientation. Although local market oriented investments are the majority also among the projects from advanced countries, there is a significant segment of export oriented investment projects especially in manufacturing. These have boosted the export performance of the V-4 and

decisively contributed to balancing, or generating surpluses in, the trade with the EU-15.

Data confirming the low rate of export orientation of FDI from the V-4 are not readily available. One would need export sales data of foreign affiliates of specific home countries in each of the host country. This would show the share of foreign affiliates in exports. It could also be compared with the turnover data to see the export propensity of foreign affiliates of the V-4. Such data are provided only for the Czech-controlled enterprises in the other three countries (FATS statistics: majority Czech-owned enterprises) in the year 2007. Exports per turnover for Czech outward investments were 14% in total. The figure was only 3% for the Czech subsidiaries in Hungary and 13% for those in Poland. But it was particularly high, 28%, in Slovakia. The activity structure of FDI is reflected in these data, but also the special relationship between the Czech Republic and Slovakia where companies were integrated into one single economy before 2003.

Concerning the export propensity of foreign-controlled enterprises in the Czech Republic, no breakdown by investing country is available. For the total of foreign affiliates the exports/turnover ratio was 34% in 2006 (latest year available; exports amounted to EUR 40 billion), marginally higher than in 2003 (when exports of foreign affiliates amounted to EUR 23 billion). The large increase in export orientation took place before accession: in 1999 (earliest year available) the export to turnover ratio was only 24% (exports of foreign affiliates were EUR 11 billion). Meanwhile the share of exports of foreign affiliates in total exports declined from 69% in 1999 to 53% in both 2003 and 2006. As the export share of foreign affiliates usually rises and does not decline, one can assume methodological change in this case.

Also in Poland foreign affiliates exhibit a higher degree of export orientation than domestic firms; the share of exports in the revenues of foreign affiliates is 26% while in those of domestic firms only 7% (in 2008). Foreign affiliates accounted for 63% of Polish exports in 2007, up from 50% in 2000. This devel-

opment may have two reasons: first, earlier FDI was more domestic market oriented and export oriented firms entered mainly in the period when EU accession was in reach; second, affiliates established to serve the domestic market developed later into export activities. Whatever the main cause, the export propensity of foreign affiliates increased.

For the other countries comparable recent data are missing. A research carried out in the pre-accession era showed that foreign investment enterprises (FDI definition, companies with more than 10% foreign ownership) in the V-4 are larger, more productive and have a higher export propensity than domestic firms in the manufacturing sector. Hunya (2004) observed that a very high share of foreign investment enterprises in manufacturing exports was already present in 2002. It may have even increased in the wake of massive FDI inflows in more recent years. Research on Hungary referring to 2006 shows that 65.6% of the industrial exports were generated by companies in 100% foreign ownership and an additional 16.9% by companies in majority foreign ownership. Thus the overall share of foreign investment enterprises in

exports at least remained on the very high level attained already before EU accession.

### Conclusion

While overall FDI in the V-4 has had a trade enhancing effect, this cannot be identified for the FDI these countries made in each other. Sectoral FDI data indicate that a higher than average share of mutual FDI went into the tradable sectors with a potential trade effect but reportedly with the aim to sell on the host market. The exception is the bilateral relation between the Czech Republic and Slovakia, which has historical reasons and is not related to EU enlargement.

### References

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## STATISTICAL ANNEX

### Selected monthly data on the economic situation in Central, East and Southeast Europe

NEW: As of January 2011, time series for the three Baltic countries – **Estonia, Latvia, Lithuania** – are included in the wiiw Monthly Database.

#### Conventional signs and abbreviations used

.	data not available
%	per cent
PP	change in % against previous period
CPPY	change in % against corresponding period of previous year
CCPPY	change in % against cumulated corresponding period of previous year (e.g., under the heading 'March': January-March of the current year against January-March of the preceding year)
3MMA	3-month moving average, change in % against previous year
NACE Rev. 1	statistical classification of economic activities in the European Community, Rev. 1 (1990) / Rev. 1.1 (2002)
NACE Rev. 2	statistical classification of economic activities in the European Community, Rev. 2 (2008)
LFS	Labour Force Survey
CPI	consumer price index
HICP	harmonized index of consumer prices (for new EU member states)
PPI	producer price index
p.a.	per annum
mn	million (10 <sup>6</sup> )
bn	billion (10 <sup>9</sup> )
avg	average
eop	end of period
NCU	national currency unit (including 'euro-fixed' series for euro-area countries)

The following national currencies are used:

ALL	Albanian lek	HUF	Hungarian forint	RON	Romanian leu
BAM	Bosnian convertible mark	LVL	Latvian lats	RSD	Serbian dinar
BGN	Bulgarian lev	LTL	Lithuanian litas	RUB	Russian rouble
CZK	Czech koruna	MKD	Macedonian denar	UAH	Ukrainian hryvnia
HRK	Croatian kuna	PLN	Polish zloty		

EUR euro – national currency for Montenegro and for the euro-area countries Estonia (from January 2011, euro-fixed before), Slovakia (from January 2009, 'euro-fixed before) and Slovenia (from January 2007, 'euro-fixed' before)

USD US dollar

M1 currency outside banks + demand deposits / narrow money (ECB definition)

M2 M1 + quasi-money / intermediate money (ECB definition)

M3 broad money

Sources of statistical data: Eurostat, national statistical offices and central banks; wiiw estimates.

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To receive your personal password, please go to <http://mdb.wiiw.ac.at>

ALBANIA: Selected monthly data on the economic situation 2009 to 2010

(updated mid of Dec 2010)

		2009				2010											
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
<b>LABOUR</b>																	
Employment total, registered	th. pers., quart. avg	971.5	.	.	899.3	.	.	900.7	.	.	904.9	.	.	916.0	.	.	
Employment total, registered	CPPY	0.2	.	.	-7.7	.	.	-7.4	.	.	-7.0	.	.	-5.7	.	.	
Unemployment, registered	th. pers., quart. avg	142.1	.	.	143.3	.	.	144.6	.	.	144.6	.	.	143.2	.	.	
Unemployment rate, registered	%	12.8	.	.	13.8	.	.	13.8	.	.	13.8	.	.	13.5	.	.	
<b>PRICES</b>																	
Consumer	PP	0.8	0.6	0.4	1.6	0.9	1.1	0.1	-0.4	-1.2	-0.5	-0.5	0.8	0.7	0.2	0.2	
Consumer	CPPY	1.9	2.5	3.0	3.7	4.0	4.4	3.8	3.5	3.1	3.2	3.4	3.5	3.4	3.0	2.8	
Consumer	CCPPY	2.0	2.1	2.2	2.3	4.0	4.2	4.1	3.9	3.8	3.7	3.6	3.6	3.6	3.5	3.5	
Producer, in industry	PP	0.2	0.6	-0.2	0.3	2.1	0.3	1.0	-0.3	-0.4	0.3	0.6	0.1	0.3	.	.	
Producer, in industry	CPPY	-2.3	-0.8	-1.0	-0.7	-0.6	-0.4	0.4	0.3	0.0	0.4	0.1	0.4	0.5	.	.	
Producer, in industry	CCPPY	-1.9	-1.8	-1.7	-1.7	-0.6	-0.5	-0.2	-0.1	0.0	0.0	0.0	0.1	0.1	.	.	
<b>FOREIGN TRADE</b>																	
Exports total (fob), cumulated	EUR mn	567	637	706	778	69	151	255	346	475	596	695	766	866	971	.	
Imports total (cif), cumulated	EUR mn	2395	2669	2943	3258	218	448	723	999	1302	1601	1928	2224	2523	2823	.	
Trade balance, cumulated	EUR mn	-1829	-2032	-2237	-2479	-149	-298	-467	-653	-827	-1005	-1233	-1458	-1657	-1852	.	
<b>FOREIGN FINANCE</b>																	
Current account, cumulated	EUR mn	-1021	-1122	-1229	-1346	-66	-159	-247	-318	-377	-463	-522	-626	-673	.	.	
<b>EXCHANGE RATE</b>																	
ALL/EUR, monthly average	nominal	133.94	136.90	137.70	137.17	138.28	138.80	139.20	138.36	136.72	136.65	136.11	136.24	137.05	138.39	138.82	
ALL/USD, monthly average	nominal	92.05	92.42	92.34	93.98	96.84	101.34	102.51	103.02	108.73	111.89	106.63	105.59	104.81	99.60	101.33	
EUR/ALL, calculated with CPI <sup>1)</sup>	real, Jan07=100	92.4	90.8	90.5	92.0	92.5	92.9	92.0	91.7	91.6	91.1	91.2	91.6	91.6	90.6	90.3	
EUR/ALL, calculated with PPI <sup>1)</sup>	real, Jan07=100	95.7	93.8	92.9	93.4	93.8	93.5	93.5	93.1	93.4	93.4	94.3	94.3	93.8	.	.	
USD/ALL, calculated with CPI <sup>1)</sup>	real, Jan07=100	103.4	103.5	103.9	104.0	101.5	98.0	96.6	95.5	89.3	86.4	90.2	91.7	92.9	97.9	96.4	
USD/ALL, calculated with PPI <sup>1)</sup>	real, Jan07=100	104.9	104.4	103.0	101.1	98.1	94.6	93.2	91.9	86.6	85.0	89.5	90.3	90.9	.	.	
<b>DOMESTIC FINANCE</b>																	
Currency outside banks	ALL bn, eop	202.4	200.6	200.8	209.0	199.1	197.4	195.2	193.1	193.5	193.9	197.2	197.0	191.3	190.9	.	
M1	ALL bn, eop	277.6	272.2	272.8	284.5	269.4	266.6	268.5	263.4	265.6	268.9	274.4	276.4	272.5	269.8	.	
M2	ALL bn, eop	843.6	852.1	858.5	871.5	880.1	882.4	887.9	886.3	897.8	902.3	913.6	940.0	948.4	952.0	.	
M2	CPPY, eop	2.8	5.6	7.3	6.8	7.8	8.8	10.2	9.3	10.0	10.1	11.2	11.2	12.4	11.7	.	
Central bank policy rate (p.a.) <sup>2)</sup>	%, eop	5.8	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.0	5.0	5.0	5.0	5.0	
Central bank policy rate (p.a.) <sup>2)3)</sup>	real, %, eop	8.3	6.1	6.3	6.0	5.9	5.7	4.8	4.9	5.2	4.8	4.9	4.5	4.4	.	.	
<b>BUDGET</b>																	
General gov. budget balance, cum.	ALL bn	-48668	-49616	-64454	-80361	4652	606	699	-1271	-11303	-15600	-22799	-23179	-23916	.	.	

1) Adjusted for domestic and foreign (US resp. EU) inflation. Values more than 100 mean real appreciation.

2) One-week repo rate.

3) Deflated with annual PPI.

Source: wiw Database incorporating national statistics.

**B O S N I A and H E R Z E G O V I N A: Selected monthly data on the economic situation 2009 to 2010**

(updated mid of Dec 2010)

		2009				2010											
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
<b>PRODUCTION</b>																	
Industry, total <sup>1)</sup>	real, CPPY	0.0	-1.6	-10.5	-4.5	-0.5	-0.5	4.3	2.7	5.2	-4.3	-4.7	7.1	-1.2	-0.1	.	
Industry, total <sup>1)</sup>	real, CCPY	-3.9	-3.6	-4.3	-3.3	-0.5	-0.4	1.3	1.7	2.6	1.3	0.2	1.1	0.8	0.8	.	
Industry, total <sup>1)</sup>	real, 3MMA	-1.3	-4.0	-5.5	-5.2	-1.8	1.1	2.2	4.1	1.2	-1.3	-0.6	0.4	1.9	.	.	
<b>LABOUR</b>																	
Employees total, registered <sup>2)</sup>	th. persons, avg	694.1	694.0	694.1	694.4	692.4	691.8	681.3	681.9	682.3	682.1	682.0	680.8	683.5	.	.	
Employees total, registered <sup>2)</sup>	CPPY, avg	97.9	97.8	97.8	98.3	98.3	98.2	97.5	97.7	97.8	97.7	97.8	97.9	98.5	.	.	
Unemployment, registered <sup>3)</sup>	th. persons, eop	502.2	504.0	506.5	510.5	516.2	519.3	519.2	516.0	512.3	511.8	516.0	517.6	517.0	.	.	
Unemployment rate, registered <sup>3)</sup>	%, eop	42.0	42.1	42.2	42.4	42.7	42.9	43.2	43.1	42.9	42.9	43.1	43.2	43.1	.	.	
<b>WAGES</b>																	
Total economy, gross	BAM	1197	1201	1204	1223	1203	1190	1215	1217	1211	1216	1216	1219	1220	1213	.	
Total economy, gross	real, CPPY	5.8	5.5	5.5	3.4	-0.5	-2.9	-1.0	-1.7	-1.5	-1.7	-1.0	0.3	0.0	-1.1	.	
Total economy, gross	EUR	612	614	616	625	615	608	621	622	619	622	622	623	624	620	.	
<b>PRICES</b>																	
Consumer	PP	0.1	0.7	0.1	0.1	1.4	0.1	0.2	-0.7	0.0	0.0	0.0	-0.2	0.3	0.9	.	
Consumer	CPPY	-1.5	-1.4	-0.7	0.0	1.5	1.6	2.0	2.4	2.6	2.4	1.7	1.7	1.9	2.2	.	
Consumer	CCPPY	-0.3	-0.4	-0.4	-0.4	1.5	1.6	1.7	1.9	2.0	2.1	2.0	2.0	2.0	2.0	.	
<b>FOREIGN TRADE</b>																	
Exports total (fob), cumulated	EUR mn	2059	2321	2577	2817	214	478	787	1090	1399	1728	2054	2352	2673	2977	.	
Imports total (cif), cumulated	EUR mn	4649	5223	5731	6301	368	851	1406	1984	2584	3184	3817	4414	5068	5688	.	
Trade balance, cumulated	EUR mn	-2589	-2902	-3155	-3484	-153	-373	-619	-893	-1185	-1457	-1763	-2062	-2395	-2711	.	
Exports to EU-27 (fob), cumulated	EUR mn	1121	1265	1407	1527	132	279	443	606	782	961	1133	1283	1463	1639	.	
Imports from EU-27 (cif), cumulated	EUR mn	2314	2607	2876	3134	167	394	661	932	1196	1475	1773	2027	2314	2604	.	
Trade balance with EU-27, cumulated	EUR mn	-1193	-1342	-1469	-1606	-35	-115	-218	-327	-414	-514	-640	-744	-851	-965	.	
<b>FOREIGN FINANCE</b>																	
Current account, cumulated	EUR mn	-587	.	.	-840	.	.	-61	.	.	-258	.	.	.	.	.	
<b>EXCHANGE RATE</b>																	
BAM/EUR, monthly average	nominal	1.956	1.956	1.956	1.956	1.956	1.956	1.956	1.956	1.956	1.956	1.956	1.956	1.956	1.956	1.956	
BAM/USD, monthly average	nominal	1.345	1.321	1.314	1.337	1.370	1.431	1.441	1.457	1.548	1.602	1.534	1.517	1.503	1.408	1.427	
EUR/BAM, calculated with CPI <sup>4)</sup>	real, Jan07=100	102.6	103.1	103.0	102.8	104.7	104.5	103.9	102.7	102.5	102.5	102.7	102.3	102.4	102.9	.	
USD/BAM, calculated with CPI <sup>4)</sup>	real, Jan07=100	114.5	117.2	117.9	116.2	114.5	109.8	108.7	106.6	100.2	97.0	101.2	102.0	103.1	111.0	.	
<b>DOMESTIC FINANCE</b>																	
Currency outside banks	BAM mn, eop	1978	1968	1955	2010	2002	2006	1975	2005	1981	1990	2073	2065	2109	2144	.	
M1	BAM mn, eop	5659	5605	5565	5888	5880	5852	5882	6013	6045	5862	6090	6179	6114	6218	.	
M2	BAM mn, eop	12641	12657	12639	13003	12988	13037	13220	13381	13417	13422	13572	13819	13614	13774	.	
M2	CPPY, eop	-5.5	-0.3	0.4	2.4	4.0	4.3	6.5	8.1	8.1	8.4	8.8	9.5	7.7	8.8	.	

1) Federation of B&H and Republic Srpska weighted by wiiw.

2) Sum of employees in Federation of B&H, Republic Srpska and District Brcko, calculated by wiiw.

3) Sum of unemployed persons in Federation B&H, Republic Srpska and District Brcko, calculated by wiiw.

4) Adjusted for domestic and foreign (US resp. EU) inflation. Values more than 100 mean real appreciation.

Source: wiiw Database incorporating national statistics.

C R O A T I A: Selected monthly data on the economic situation 2009 to 2010

(updated mid of Dec 2010)

		2009				2010											
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
<b>PRODUCTION</b>																	
Industry, NACE Rev. 2 <sup>1)</sup>	real, CPPY	-9.6	-8.5	-8.5	-5.7	-0.1	-1.3	-0.2	-5.5	-1.9	-2.4	-3.3	0.9	3.0	-5.9	.	
Industry, NACE Rev. 2 <sup>1)</sup>	real, CCPY	-9.8	-9.7	-9.6	-9.3	-0.1	-0.7	-0.5	-1.9	-1.9	-2.0	-2.2	-1.8	-1.3	-1.8	.	
Industry, NACE Rev. 2 <sup>1)</sup>	real, 3MMA	-8.8	-8.9	-7.7	-5.1	-2.6	-0.5	-2.4	-2.6	-3.3	-2.5	-1.7	0.1	-0.8	.	.	
Construction, NACE Rev. 2 <sup>1)</sup>	real, CPPY	-9.4	-15.7	-9.7	-13.1	-18.4	-21.4	-16.3	-17.2	-16.1	-17.2	-19.2	-11.7	-14.3	.	.	
Construction, NACE Rev. 2 <sup>1)</sup>	real, CCPY	-4.4	-5.6	-6.0	-6.5	-18.4	-20.0	-18.6	-18.2	-17.8	-17.7	-17.9	-17.2	-16.9	.	.	
<b>LABOUR</b>																	
Employment total, registered	th. persons, avg	1206.6	1199.1	1189.6	1178.8	1165.0	1154.8	1151.6	1153.8	1158.0	1163.0	1166.7	1165.1	1156.2	1148.0	.	
Employees in industry, reg., NACE Rev. 2	th. persons, avg	253.9	252.8	251.2	248.7	244.6	243.9	243.0	242.6	242.3	242.6	242.7	241.6	240.7	.	.	
Unemployment, registered	th. persons, eop	259.2	273.3	282.9	291.5	309.6	317.6	318.7	308.7	296.4	285.8	282.8	283.3	289.5	304.5	.	
Unemployment rate, registered	%, eop	14.7	15.5	16.1	16.7	17.8	18.3	18.4	17.9	17.2	16.6	16.4	16.4	16.9	17.8	.	
Productivity in industry, NACE Rev. 2 <sup>1)</sup>	CCPPY	-0.9	-0.6	-0.3	0.1	9.5	8.6	8.7	7.0	6.9	6.6	6.3	6.5	6.9	6.2	.	
<b>WAGES</b>																	
Total economy, gross	HRK	7569	7643	7808	7783	7615	7457	7831	7606	7662	7763	7608	7707	7546	.	.	
Total economy, gross	real, CPPY	-0.4	-1.0	-2.0	-2.9	-2.3	-2.5	-0.7	-1.8	-1.9	-1.2	-2.4	0.1	-1.7	.	.	
Total economy, gross	EUR	1035	1055	1072	1067	1044	1021	1079	1048	1056	1074	1055	1064	1036	.	.	
Industry, gross, NACE Rev. 2	EUR	934	955	959	964	933	907	985	946	945	984	966	947	939	.	.	
<b>PRICES</b>																	
Consumer	PP	-0.2	0.1	0.4	-0.6	0.5	0.2	0.4	0.4	0.2	-0.1	-0.4	-0.2	0.3	0.1	0.3	
Consumer	CPPY	1.0	1.3	1.8	1.9	1.1	0.7	0.9	0.6	0.8	0.7	1.0	0.9	1.4	1.4	1.2	
Consumer	CCPPY	2.6	2.5	2.4	2.4	1.1	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.9	1.0	1.0	
Producer, in industry, NACE Rev. 2 <sup>2)</sup>	PP	-0.7	-0.2	0.2	0.0	1.3	-0.1	0.9	0.6	0.5	0.4	0.0	0.3	0.4	0.3	-0.1	
Producer, in industry, NACE Rev. 2 <sup>2)</sup>	CPPY	-2.4	-1.5	0.2	1.6	3.0	2.7	4.9	5.0	4.9	4.4	3.8	3.3	4.4	4.9	4.7	
Producer, in industry, NACE Rev. 2 <sup>2)</sup>	CCPPY	-0.6	-0.7	-0.6	-0.4	3.0	2.9	3.5	3.9	4.1	4.2	4.1	4.0	4.0	4.1	4.2	
<b>FOREIGN TRADE</b>																	
Exports total (fob), cumulated	EUR mn	5593	6239	6891	7529	617	1202	2000	2685	3529	4280	4997	5675	6449	7316	.	
Imports total (cif), cumulated	EUR mn	11400	12739	14029	15225	957	2015	3338	4594	5880	7188	8531	9802	11146	12395	.	
Trade balance, cumulated	EUR mn	-5807	-6500	-7139	-7695	-340	-813	-1338	-1909	-2351	-2908	-3534	-4127	-4697	-5078	.	
Exports to EU-27 (fob), cumulated	EUR mn	3419	3821	4220	4562	312	656	1156	1593	2153	2619	3045	3455	3935	4460	.	
Imports from EU-27 (cif), cumulated	EUR mn	7177	7957	8811	9547	503	1147	1963	2765	3562	4348	5161	5847	6620	7380	.	
Trade balance with EU-27, cumulated	EUR mn	-3759	-4136	-4591	-4985	-191	-492	-807	-1172	-1409	-1729	-2116	-2392	-2685	-2920	.	
<b>FOREIGN FINANCE</b>																	
Current account, cumulated	EUR mn	-946	.	.	-2477	.	.	-1397	.	.	-1674	.	.	.	.	.	
<b>EXCHANGE RATE</b>																	
HRK/EUR, monthly average	nominal	7.315	7.245	7.284	7.292	7.291	7.305	7.261	7.258	7.258	7.229	7.212	7.246	7.283	7.321	7.373	
HRK/USD, monthly average	nominal	5.031	4.891	4.885	4.980	5.098	5.327	5.347	5.405	5.753	5.922	5.667	5.614	5.593	5.270	5.384	
EUR/HRK, calculated with CPI <sup>3)</sup>	real, Jan07=100	104.4	105.3	105.0	103.9	104.9	104.6	104.9	104.8	104.9	105.1	105.2	104.3	103.9	103.1	102.5	
EUR/HRK, calculated with PPI <sup>3)</sup>	real, Jan07=100	108.2	108.7	108.0	107.8	108.3	107.7	108.6	108.4	108.5	109.0	109.1	108.9	108.5	107.9	107.1	
USD/HRK, calculated with CPI <sup>3)</sup>	real, Jan07=100	116.5	119.8	120.3	117.5	114.9	110.2	109.8	108.8	102.3	99.4	103.5	104.0	104.6	111.0	109.0	
USD/HRK, calculated with PPI <sup>3)</sup>	real, Jan07=100	118.2	120.6	119.4	116.7	113.1	108.7	107.9	106.7	100.6	98.8	102.9	104.0	104.5	110.2	107.2	
<b>DOMESTIC FINANCE</b>																	
Currency outside banks	HRK bn, eop	16.0	15.4	15.0	15.3	14.8	14.8	14.8	15.1	15.4	16.0	16.9	16.7	16.0	15.7	.	
M1	HRK bn, eop	45.6	44.7	45.7	47.2	48.1	48.7	47.7	49.0	48.0	49.7	50.7	51.2	51.7	50.7	.	
Broad money	HRK bn, eop	224.1	221.1	223.6	223.1	223.5	223.3	222.0	222.1	222.6	224.6	227.0	231.6	232.7	232.4	.	
Broad money	CPPY, eop	-1.2	-1.0	2.5	-0.9	0.9	0.9	1.6	1.5	2.0	2.8	2.5	3.2	3.8	5.1	.	
Central bank policy rate (p.a.) <sup>4)</sup>	%, eop	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		
Central bank policy rate (p.a.) <sup>4)5)</sup>	real, %, eop	11.6	10.6	8.8	7.3	5.8	6.1	3.9	3.8	3.9	4.5	5.0	5.6	4.4	3.9	4.1	
<b>BUDGET</b>																	
Central gov. budget balance, cum. <sup>6)</sup>	HRK mn	-8664	-8307	-8976	-10068	-1864	-3387	-5216	-5191	-6566	-7284	-8212	-8347	-9397	.	.	

1) Enterprises with 20 and more employees.

2) Data refer to industry total (including E - electricity, gas, steam, air conditioning supply etc.) compared to previously published domestic producer prices.

3) Adjusted for domestic and foreign (US resp. EU) inflation. Values more than 100 mean real appreciation.

4) Discount rate.

5) Deflated with annual PPI.

6) Consolidated central government budget.

Source: wiw Database incorporating national statistics.



## M A C E D O N I A: Selected monthly data on the economic situation 2009 to 2010

(updated mid of Dec 2010)

		2009				2010											
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
<b>PRODUCTION</b>																	
Industry, total <sup>1)</sup>	real, CPPY	-9.8	-0.9	4.4	20.0	-3.0	-13.1	-11.2	-9.6	-0.4	5.4	8.4	-1.4	-11.8	-4.4	.	
Industry, total <sup>1)</sup>	real, CCPY	-12.5	-11.3	-9.9	-7.7	-3.0	-8.3	-9.4	-9.5	-7.6	-5.3	-3.3	-3.0	-4.2	-4.2	.	
Industry, total <sup>1)</sup>	real, 3MMA	-7.1	-2.6	7.5	7.8	2.2	-9.4	-11.2	-7.1	-1.6	4.5	4.0	-2.3	-6.1	.	.	
Construction, total, effect. work. time	real, CPPY	-5.1	-11.5	2.3	-12.5	7.6	-5.1	3.0	12.5	13.0	8.4	4.9	8.1	0.6	.	.	
Construction, total, effect. work. time	real, CCPY	0.0	-1.4	-1.0	-2.1	7.6	0.7	1.6	4.3	6.1	6.5	6.2	6.5	5.8	.	.	
<b>LABOUR</b>																	
Employed persons, LFS	th. pers., quart. avg	642.5	.	.	622.7	.	.	615.9	.	.	627.1	.	.	.	.	.	
Employed persons, LFS	CCPPY	3.8	.	.	3.4	.	.	-0.4	.	.	-0.9	.	.	.	.	.	
Unemployed persons, LFS	th. pers., quart. avg	298.1	.	.	298.8	.	.	309.6	.	.	296.2	.	.	.	.	.	
Unemployment rate, LFS	%, avg	31.7	.	.	32.4	.	.	33.5	.	.	32.1	.	.	.	.	.	
Labour productivity, industry <sup>1)</sup>	CCPPY	-6.6	-5.1	-3.6	-1.1	4.5	-1.1	-2.5	-2.4	-0.5	1.6	3.3	3.0	1.2	-1.1	.	
Unit labour costs, exch.r. adj.(EUR) <sup>1)</sup>	CCPPY	16.1	14.0	12.3	9.4	1.0	13.0	12.6	10.7	8.2	4.9	2.6	2.7	4.2	.	.	
<b>WAGES</b>																	
Total economy, gross	MKD	30002	30110	29829	30611	29947	29751	29938	30081	30598	30035	29827	30207	30263	.	.	
Total economy, gross	real, CPPY	10.3	10.9	10.8	9.6	1.2	0.6	0.5	-1.6	1.8	-2.2	-1.5	-0.8	-1.6	.	.	
Total economy, gross	EUR	491	492	488	500	489	484	486	488	497	488	485	491	491	.	.	
Industry, gross	EUR	411	412	408	425	416	450	417	413	420	413	414	422	423	.	.	
<b>PRICES</b>																	
Consumer	PP	-0.1	-0.4	0.3	1.0	0.7	0.4	0.5	0.6	-0.6	0.2	-0.4	0.1	0.1	0.3	0.4	
Consumer	CCPY	-1.4	-2.4	-2.3	-1.6	0.1	0.6	0.7	1.4	0.2	1.8	1.5	1.9	2.0	2.7	2.9	
Consumer	CCPPY	-0.4	-0.6	-0.7	-0.8	0.1	0.3	0.5	0.7	0.6	0.8	0.9	1.0	1.1	1.3	1.4	
Producer, in industry	PP	0.5	0.0	0.4	0.4	0.1	1.3	1.0	3.0	1.4	-0.9	0.4	0.1	0.6	0.9	-1.1	
Producer, in industry	CCPY	-9.0	-5.9	1.5	3.2	6.5	7.4	8.8	10.4	10.9	7.7	7.6	7.7	7.8	8.7	7.1	
Producer, in industry	CCPPY	-8.4	-8.2	-7.4	-6.5	6.5	6.9	7.5	8.3	8.8	8.6	8.4	8.3	8.3	8.3	8.2	
<b>FOREIGN TRADE</b>																	
Exports total (fob), cumulated	EUR mn	1423	1582	1751	1924	131	289	479	662	869	1095	1329	1531	1782	2001	.	
Imports total (cif), cumulated	EUR mn	2610	2934	3280	3498	224	484	804	1157	1489	1853	2212	2576	2898	3260	.	
Trade balance, cumulated	EUR mn	-1187	-1352	-1528	-1574	-93	-195	-324	-495	-621	-758	-883	-1044	-1116	-1259	.	
Exports to EU-27 (fob), cumulated	EUR mn	799	889	981	1082	90	183	294	404	531	672	818	932	1089	1229	.	
Imports from EU-27 (cif), cumulated	EUR mn	1369	1542	1713	1816	106	232	412	610	796	973	1164	1338	1527	1745	.	
Trade balance with EU-27, cumulated	EUR mn	-570	-653	-732	-734	-16	-48	-118	-206	-264	-302	-346	-406	-438	-516	.	
<b>FOREIGN FINANCE</b>																	
Current account, cumulated	EUR mn	-354	-376	-427	-449	-42	-61	-74	-113	-118	-117	-93	-91	-33	.	.	
<b>EXCHANGE RATE</b>																	
MKD/EUR, monthly average	nominal	61.17	61.17	61.17	61.18	61.18	61.42	61.60	61.60	61.53	61.51	61.52	61.51	61.63	61.62	61.55	
MKD/USD, monthly average	nominal	42.06	41.33	41.07	41.81	42.83	44.93	45.40	45.90	48.79	50.38	48.25	47.71	47.35	44.37	44.97	
EUR/MKD, calculated with CPI <sup>2)</sup>	real, Jan07=100	100.7	100.1	100.3	100.9	102.1	101.8	101.2	101.3	100.7	100.9	100.7	100.6	100.3	100.3	100.6	
EUR/MKD, calculated with PPI <sup>2)</sup>	real, Jan07=100	105.7	105.3	105.4	105.7	104.9	105.6	105.6	107.9	109.0	107.7	108.0	108.1	108.3	108.9	107.8	
USD/MKD, calculated with CPI <sup>2)</sup>	real, Jan07=100	112.4	113.9	114.8	114.1	111.8	106.9	105.9	105.2	98.3	95.5	99.3	100.3	101.1	108.1	107.1	
USD/MKD, calculated with PPI <sup>2)</sup>	real, Jan07=100	115.5	116.8	116.5	114.5	109.6	106.3	104.9	106.2	101.2	97.8	102.2	103.2	104.3	111.3	108.0	
<b>DOMESTIC FINANCE</b>																	
Currency outside banks	MKD bn, eop	14.5	14.6	14.5	16.3	15.5	15.1	14.8	15.2	15.5	15.7	16.7	16.2	15.9	16.1	.	
M1	MKD bn, eop	47.9	49.1	49.1	52.2	50.0	50.7	50.3	50.6	52.9	52.5	52.7	53.6	53.8	53.8	.	
Broad money	MKD bn, eop	195.7	199.9	201.4	207.3	208.1	208.3	210.7	215.0	219.4	220.4	216.1	220.0	221.9	224.5	.	
Broad money	CCPY, eop	-1.1	2.4	5.9	6.0	8.0	8.0	10.7	11.7	15.0	14.8	12.8	12.4	13.4	12.3	.	
Central bank policy rate (p.a.) <sup>3)</sup>	%, eop	9.0	9.0	9.0	8.5	8.0	7.6	7.3	6.5	6.2	5.5	5.0	4.7	4.5	4.5	4.5	
Central bank policy rate (p.a.) <sup>3)4)</sup>	real, %, eop	19.8	15.8	7.4	5.1	1.4	0.2	-1.4	-3.6	-4.2	-2.0	-2.4	-2.7	-3.1	-3.9	-2.4	
<b>BUDGET</b>																	
General gov. budget balance, cum. <sup>5)</sup>	MKD mn	-6742	-8868	-10369	-10904	-2318	-4057	-4104	-4762	-5674	-6077	-5221	-5417	-6594	-7729	.	

1) In business entities with more than 10 persons employed.

2) Adjusted for domestic and foreign (US resp. EU) inflation. Values more than 100 mean real appreciation.

3) Central bank bills (28-days).

4) Deflated with annual PPI.

5) Central government budget plus extra-budgetary funds.

Source: wiw Database incorporating national statistics.

MONTENEGRO: Selected monthly data on the economic situation 2009 to 2010

(updated mid of Dec 2010)

		2009				2010											
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
<b>PRODUCTION</b>																	
Industry, total	real, CPPY	-56.2	-37.7	-45.6	-24.5	-11.8	-21.6	-8.4	8.5	15.7	39.4	16.1	27.2	55.2	37.1	.	
Industry, total	real, CCPY	-31.6	-32.2	-33.4	-32.7	-11.8	-16.7	-13.9	-9.1	-5.4	0.0	1.8	3.8	9.6	11.9	.	
Industry, total	real, 3MMA	-49.7	-47.3	-36.2	-28.0	-19.3	-13.9	-8.2	3.7	19.9	23.4	27.5	35.5	51.6	.	.	
<b>LABOUR</b>																	
Employment total, registered <sup>1)</sup>	th. persons, avg	176.9	175.5	174.7	169.9	172.3	171.6	157.0	159.9	163.1	167.1	167.9	171.9	173.5	.	.	
Employment in industry, registered	th. persons, avg	29.2	29.0	28.7	27.4	27.6	26.6	26.6	.	.	.	.	.	.	.	.	
Unemployment, registered	th. persons, eop	27.3	28.7	29.6	30.2	31.1	32.4	33.1	33.2	32.4	31.3	31.1	30.6	31.0	31.9	.	
Unemployment rate, registered	% eop	13.4	14.1	14.5	15.1	15.3	15.9	17.4	17.2	16.6	15.8	15.3	15.0	15.0	15.5	.	
Labour productivity, industry	CCPY	-25.2	-25.3	-26.2	-24.6	6.3	1.6	4.1	.	.	.	.	.	.	.	.	
Unit labour costs, exch.r. adj.(EUR)	CCPY	33.2	32.9	33.5	30.9	-0.2	5.4	5.3	.	.	.	.	.	.	.	.	
<b>WAGES</b>																	
Total economy, gross	EUR	631	633	633	653	702	691	693	693	727	706	696	752	717	711	.	
Total economy, gross	real, CPPY	-1.7	0.0	-1.8	-1.3	5.6	5.4	7.0	6.7	11.5	8.9	8.5	17.4	13.3	11.8	.	
Industry, gross	EUR	649	653	660	702	762	764	751	749	792	776	748	788	811	832	.	
<b>PRICES</b>																	
Consumer	PP	-0.3	0.0	0.0	0.1	-0.3	0.1	0.4	0.1	-0.1	-0.4	0.2	0.1	0.1	0.2	0.2	
Consumer	CCPY	1.7	1.7	2.3	1.5	0.8	0.2	0.7	0.4	0.3	0.2	1.0	-0.1	0.3	0.5	0.7	
Consumer	CCPY	3.7	3.7	3.6	3.4	0.8	0.5	0.6	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.6	
Producer, in industry	PP	0.6	0.5	0.4	0.3	-2.4	-0.8	-0.8	1.6	3.8	-0.7	-0.9	0.3	0.2	-0.3	.	
Producer, in industry	CCPY	-8.6	-8.1	-7.2	-2.9	-4.2	-5.0	-4.6	-3.4	1.2	1.5	2.1	1.8	1.4	0.6	.	
Producer, in industry	CCPY	-3.2	-3.7	-3.7	-3.9	-4.2	-6.3	-5.7	-5.2	-3.1	-2.3	-1.7	-1.3	-1.0	-0.8	.	
<b>FOREIGN TRADE</b>																	
Exports total (fob), cumulated	EUR mn	199	226	253	277	14	32	56	82	118	152	182	212	239	268	.	
Imports total (cif), cumulated	EUR mn	1207	1360	1498	1654	74	181	311	447	585	754	927	1083	1225	1362	.	
Trade balance, cumulated	EUR mn	-1008	-1134	-1245	-1377	-60	-149	-255	-366	-468	-602	-745	-871	-986	-1094	.	
<b>FOREIGN FINANCE</b>																	
Current account, cumulated	EUR mn	-568	.	.	-896	.	.	-242	.	.	-509	.	.	.	.	.	
<b>EXCHANGE RATE</b>																	
EUR/USD, monthly average	nominal	0.687	0.675	0.671	0.684	0.701	0.731	0.737	0.746	0.796	0.819	0.783	0.776	0.765	0.720	.	
USD/EUR, calculated with CPI <sup>2)</sup>	real, Jan07=100	97.1	95.4	94.7	96.9	98.5	102.9	103.7	104.9	111.7	114.6	109.8	108.6	107.2	100.9	.	
USD/EUR, calculated with PPI <sup>2)</sup>	real, Jan07=100	98.0	96.3	94.8	96.6	94.6	98.3	97.1	99.3	109.7	112.9	106.7	105.8	104.3	96.9	.	
<b>BUDGET</b>																	
General gov.budget balance, cum.	EUR mn	-7	.	.	-106	.	.	-37	.	.	-12	.	.	0	.	.	

1) Excluding individual farmers. From March according to Tax Administration source, before Employment Agency.

2) Adjusted for domestic and foreign (US resp. EU) inflation. Values more than 100 mean real appreciation.

Source: wiw Database incorporating national statistics.

## S E R B I A: Selected monthly data on the economic situation 2009 to 2010

(updated mid of Dec 2010)

		2009				2010											
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
<b>PRODUCTION</b>																	
Industry, total	real, CPPY	-4.0	-4.5	-3.3	0.0	3.7	2.6	2.6	12.5	7.2	3.8	6.6	3.6	4.1	-2.0	.	
Industry, total	real, CCPY	-13.9	-12.9	-12.0	-11.0	3.7	3.0	2.8	4.8	5.4	4.6	4.8	4.7	4.4	3.7	.	
Industry, total	real, 3MMA	-5.7	-3.9	-2.7	-0.2	1.9	2.9	5.7	7.2	7.7	5.9	4.7	4.8	1.7	.	.	
<b>LABOUR</b>																	
Employees total, registered	th. persons, avg	1383.0	1379.0	1377.0	1373.0	1366.0	1362.0	1362.0	1361.0	1359.0	1356.0	1356.0	1351.0	1348.0	.	.	
Employees in industry, registered	th. persons, avg	401.0	400.0	398.0	395.0	391.0	389.0	387.0	386.0	383.0	382.0	383.0	380.0	378.0	.	.	
Unemployment, registered	th. persons, eop	737.2	727.1	723.4	730.4	751.6	767.4	778.5	772.2	762.6	746.8	737.0	724.3	721.0	.	.	
Unemployment rate, registered	% eop	24.7	24.7	24.7	24.9	25.5	25.9	26.4	26.3	26.1	25.7	25.4	25.1	25.1	.	.	
Labour productivity, industry	CCPY	-7.5	-6.4	-5.4	-4.3	11.7	11.3	10.9	13.0	13.2	12.7	12.6	12.2	12.0	.	.	
Unit labour costs, exch.r. adj.(EUR)	CCPY	-1.8	-3.0	-3.3	-4.0	-6.5	-8.0	-5.7	-5.4	-6.2	-6.1	-6.5	-6.6	-6.8	.	.	
<b>WAGES <sup>1)</sup></b>																	
Total economy, gross	RSD	43577	44147	43895	51115	41651	44871	46457	48525	46454	47486	48394	47190	48016	.	.	
Total economy, gross	real, CPPY	-0.9	-1.0	-0.6	0.3	-1.1	0.0	5.6	3.1	3.9	3.7	2.4	2.0	2.9	.	.	
Total economy, gross	EUR	467	474	466	533	428	454	466	488	460	459	462	448	455	.	.	
Industry, gross	EUR	421	434	426	480	416	418	433	468	439	443	444	428	427	.	.	
<b>PRICES</b>																	
Consumer	PP	0.2	-0.2	0.8	-0.1	0.6	0.2	1.1	0.6	1.3	0.0	-0.2	1.7	1.1	1.0	1.5	
Consumer	CPPY	7.2	5.0	5.8	6.5	4.7	4.9	4.3	3.8	3.5	3.5	4.3	6.1	7.1	8.4	9.1	
Consumer	CCPY	8.5	8.1	7.9	7.8	4.7	4.8	4.6	4.4	4.2	4.1	4.1	4.4	4.7	5.1	5.4	
Producer, in industry	PP	-0.5	-0.2	1.3	0.1	1.8	1.1	2.7	1.9	0.8	1.2	0.2	1.5	1.4	0.5	1.3	
Producer, in industry	CPPY	5.0	4.7	6.5	7.3	11.0	10.2	12.2	13.2	12.5	11.5	12.1	12.5	14.7	15.5	15.5	
Producer, in industry	CCPY	5.3	5.3	5.4	5.6	11.0	10.6	11.1	11.6	11.8	11.8	11.8	11.9	12.2	12.6	12.8	
<b>FOREIGN TRADE</b>																	
Exports total (fob), cumulated	EUR mn	4357	4923	5449	5895	397	870	1465	2047	2662	3347	3991	4589	5273	5953	.	
Imports total (cif), cumulated	EUR mn	8696	9710	10722	11710	737	1997	3057	4024	4985	6076	6960	8019	9188	10219	.	
Trade balance, cumulated	EUR mn	-4339	-4787	-5273	-5816	-340	-1127	-1592	-1977	-2323	-2730	-2968	-3430	-3916	-4266	.	
Exports to EU-27 (fob), cumulated	EUR mn	2304	2608	2916	3194	253	627	874	1191	1571	1942	2281	2621	3013	3406	.	
Imports from EU-27 (cif), cumulated	EUR mn	4821	5409	5597	6134	390	1114	1494	2092	2692	3277	3898	4510	5113	5756	.	
Trade balance with EU-27, cumulated	EUR mn	-2517	-2801	-2681	-2940	-137	-487	-620	-901	-1120	-1334	-1617	-1889	-2100	-2350	.	
<b>FOREIGN FINANCE</b>																	
Current account, cumulated	EUR mn	-1568	-1703	-1875	-1743	-140	-447	-760	-896	-1086	-1370	-1523	-1667	-1893	-1992	.	
<b>EXCHANGE RATE</b>																	
RSD/EUR, monthly average	nominal	93.30	93.17	94.27	95.98	97.29	98.80	99.70	99.40	100.98	103.51	104.70	105.30	105.44	106.33	107.07	
RSD/USD, monthly average	nominal	64.10	62.86	63.17	65.76	68.13	72.13	73.44	74.05	80.54	84.71	82.05	81.57	80.84	76.55	78.30	
EUR/RSD, calculated with CPI <sup>2)</sup>	real, Jan07=100	102.4	102.1	101.6	99.3	99.0	97.4	96.8	97.2	96.8	94.4	93.3	94.2	94.9	94.7	95.3	
EUR/RSD, calculated with PPI <sup>2)</sup>	real, Jan07=100	104.3	103.9	103.7	101.9	101.4	100.7	101.8	103.2	101.9	100.3	99.2	100.2	101.2	100.4	101.0	
USD/RSD, calculated with CPI <sup>2)</sup>	real, Jan07=100	114.4	116.3	116.6	112.1	108.4	102.6	101.5	101.0	94.0	89.5	92.2	94.1	95.9	102.2	101.4	
USD/RSD, calculated with PPI <sup>2)</sup>	real, Jan07=100	114.1	115.5	114.9	110.1	105.9	101.7	101.2	101.7	94.0	91.1	94.0	95.8	97.7	102.8	101.2	
<b>DOMESTIC FINANCE</b>																	
Currency outside banks	RSD bn, eop	82.8	84.1	83.5	95.5	89.2	89.9	85.9	89.4	84.9	87.7	93.1	87.8	89.8	95.0	.	
M1	RSD bn, eop	231.0	228.1	229.4	258.4	237.0	234.3	224.9	229.4	232.8	234.0	240.6	238.3	242.9	284.9	.	
Broad money <sup>3)</sup>	RSD bn, eop	1087.2	1099.6	1155.0	1205.6	1209.3	1216.6	1217.8	1226.5	1278.8	1296.2	1331.4	1288.9	1306.0	1330.2	.	
Broad money <sup>3)</sup>	CPPY, eop	10.4	12.9	15.5	21.5	20.3	18.5	19.9	18.2	22.7	22.1	24.9	19.2	20.1	21.0	.	
Central bank policy rate (p.a.) <sup>4)</sup>	% eop	8.5	8.5	8.5	8.1	8.1	8.1	8.1	7.7	8.0	8.0	8.0	8.5	9.0	9.5	10.5	
Central bank policy rate (p.a.) <sup>4)5)</sup>	real, % eop	3.3	3.6	1.9	0.8	-2.6	-1.9	-3.6	-4.9	-4.0	-3.2	-3.6	-3.6	-4.9	-5.2	-4.3	
<b>BUDGET</b>																	
Central gov.budget balance, cum.	RSD mn	-71681	-75083	-78296	-90457	-696	-15995	-20598	-30806	-40938	-48559	-56549	-59303	-71284	-85966	-82811	

1) From January 2009 including wages of employees working for entrepreneurs (physical persons).

2) Adjusted for domestic and foreign (US resp. EU) inflation. Values more than 100 mean real appreciation.

3) Excluding frozen foreign currency savings deposits of households.

4) Discount rate.

5) Deflated with annual PPI.

Source: wiw Database incorporating national statistics.

R U S S I A: Selected monthly data on the economic situation 2009 to 2010

(updated mid of Dec 2010)

		2009				2010											
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
<b>PRODUCTION</b>																	
Industry, total	real, CPPY	-8.4	-5.6	4.9	6.8	10.2	8.4	9.8	10.4	12.6	9.8	6.0	7.1	6.3	6.7	6.8	
Industry, total	real, CAPPY	-12.9	-12.2	-10.7	-9.3	10.2	9.3	9.5	9.7	10.3	10.2	9.6	9.2	8.9	8.7	8.5	
Industry, total	real, 3MMA	-8.2	-3.3	1.8	7.2	8.4	9.5	9.5	10.9	10.9	9.4	7.6	6.5	6.7	6.6	.	
Construction, total	real, CPPY	-18.3	-14.5	-13.2	-6.2	-10.7	-9.8	-5.1	-2.4	-1.8	3.0	-2.5	3.4	5.4	6.7	.	
Construction, total	real, CAPPY	-18.6	-18.2	-17.7	-16.0	-10.7	-10.3	-8.1	-6.2	-5.1	-3.1	-3.0	-1.9	-0.8	0.1	.	
<b>LABOUR<sup>1)</sup></b>																	
Employed persons, LFS	th. pers., avg	70400	69901	69362	69246	67737	68030	68228	68851	70244	71006	70862	71236	71100	70481	.	
Employed persons, LFS	CAPPY	-2.7	.	.	-2.5	.	.	0.4	.	.	0.6	.	.	0.8	.	.	
Unemployed persons, LFS	th. pers., avg	5764	5864	6162	6173	6832	6436	6418	6140	5553	5206	5357	5248	5032	5111	.	
Unemployment rate, LFS	%, avg	7.6	7.7	8.2	8.2	9.2	8.6	8.6	8.2	7.3	6.8	7.0	6.9	6.6	6.8	.	
<b>WAGES</b>																	
Total economy, gross	RUB	18838	18798	19215	23827	18938	19017	20589	20358	20279	21795	21325	20753	21376	20789	.	
Total economy, gross	real, CPPY	-4.1	-3.0	0.0	0.9	2.4	3.7	6.7	6.6	6.3	7.1	7.1	6.6	6.0	2.8	.	
Total economy, gross	EUR	420	431	445	544	442	461	513	519	529	572	546	529	533	494	.	
Industry, gross <sup>2)</sup>	EUR	377	392	417	446	390	408	456	474	479	501	505	493	485	.	.	
<b>PRICES</b>																	
Consumer	PP	0.0	0.0	0.3	0.4	1.6	0.9	0.6	0.3	0.5	0.4	0.4	0.6	0.8	0.5	0.3	
Consumer	CAPPY	10.8	9.8	9.2	8.9	8.1	7.2	6.5	6.0	6.4	6.1	5.9	6.6	7.4	8.0	8.0	
Consumer	CAPPY	12.6	12.3	12.1	11.8	8.1	7.6	7.2	6.9	6.8	6.7	6.6	6.6	6.7	6.8	6.9	
Producer, in industry	PP	1.2	-0.9	-0.5	0.5	-1.1	2.0	1.8	3.2	2.7	-3.1	0.6	3.3	-1.3	2.2	4.4	
Producer, in industry	CAPPY	-9.2	-3.6	4.7	13.9	16.6	13.1	11.9	12.8	15.2	9.2	7.9	10.0	7.3	10.7	16.1	
Producer, in industry	CAPPY	-10.7	-10.0	-8.8	-7.2	16.6	14.8	13.8	13.6	13.9	13.1	12.3	12.0	11.4	11.4	11.8	
<b>FOREIGN TRADE</b>																	
Exports total, cumulated	EUR mn	150553	171066	191681	215014	19467	41894	66807	91743	117013	143157	166900	190683	215704	.	.	
Imports total, cumulated	EUR mn	83989	95355	106674	119535	6782	17010	29709	42979	57314	72313	87260	104156	120621	.	.	
Trade balance, cumulated	EUR mn	66564	75711	85006	95479	12685	24884	37097	48763	59699	70844	79640	86527	95083	.	.	
<b>FOREIGN FINANCE</b>																	
Current account, cumulated	EUR mn	24220	.	.	35140	.	.	24766	.	.	39439	.	.	46151	.	.	
<b>EXCHANGE RATE</b>																	
RUB/EUR, monthly average	nominal	44.834	43.649	43.183	43.817	42.824	41.271	40.131	39.227	38.345	38.115	39.090	39.220	40.109	42.101	42.405	
RUB/USD, monthly average	nominal	30.818	29.477	28.985	29.941	31.946	30.225	29.565	29.198	30.358	31.169	30.687	30.344	30.836	30.321	30.968	
EUR/RUB, calculated with CPI <sup>3)</sup>	real, Jan07=100	97.2	99.6	100.8	99.4	103.8	108.3	111.2	113.6	116.6	117.8	115.5	115.6	113.7	108.5	107.9	
EUR/RUB, calculated with PPI <sup>3)</sup>	real, Jan07=100	97.3	98.7	98.9	98.0	98.3	103.7	107.8	112.9	118.1	114.8	112.4	115.8	111.5	108.1	112.1	
USD/RUB, calculated with CPI <sup>3)</sup>	real, Jan07=100	108.3	113.1	115.3	112.3	106.5	113.6	116.3	117.9	113.9	111.4	113.7	115.4	114.3	116.8	114.7	
USD/RUB, calculated with PPI <sup>3)</sup>	real, Jan07=100	106.2	109.4	109.3	105.9	96.1	104.2	107.0	111.2	109.6	104.1	106.1	110.6	107.1	110.3	112.1	
<b>DOMESTIC FINANCE</b>																	
Currency outside banks	RUB bn, eop	3485.6	3566.7	3600.1	4038.1	3873.3	3950.0	3986.1	4181.0	4240.3	4367.7	4467.3	4477.8	4524.5	4590.0	.	
M1	RUB bn, eop	7277.0	7269.9	7459.8	8294.5	8013.9	8203.2	8339.5	8512.3	8771.7	9031.7	9034.7	9217.6	9417.8	9449.1	.	
M2	RUB bn, eop	17523.4	17593.9	18142.5	19520.1	19229.6	19407.4	19652.8	20017.5	20446.9	20841.3	21037.3	21218.5	21537.8	21768.9	.	
M2	CAPPY, eop	9.1	13.8	17.6	16.4	17.4	18.4	20.5	22.4	23.4	22.2	22.3	22.0	22.9	23.7	.	
Central bank policy rate (p.a.) <sup>4)</sup>	%, eop	10.0	9.5	9.0	8.8	8.8	8.5	8.3	8.0	8.0	7.8	7.8	7.8	7.8	7.8	7.8	
Central bank policy rate (p.a.) <sup>4)5)</sup>	real, %, eop	21.1	13.6	4.1	-4.5	-6.7	-4.1	-3.3	-4.3	-6.2	-1.3	-0.1	-2.1	0.4	-2.6	-7.2	
<b>BUDGET</b>																	
Central gov. budget balance, cum.	RUB bn	-1327.3	-1481.3	-1732.9	-2300.0	87.1	-169.5	-244.6	-412.2	-463.3	-388.3	-512.8	-623.2	-692.6	.	.	

1) Survey results as of February, May, August and November, from August 2009 on a monthly basis.

2) Manufacturing industry only (D according to NACE Rev. 1).

3) Adjusted for domestic and foreign (US resp. EU) inflation. Values more than 100 mean real appreciation.

4) Refinancing rate.

5) Deflated with annual PPI.

Source: wiw Database incorporating national statistics.

## U K R A I N E: Selected monthly data on the economic situation 2009 to 2010

(updated mid of Dec 2010)

		2009				2010											
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
<b>PRODUCTION</b>																	
Industry, total	real, CPPY	-18.2	-6.1	8.6	7.2	12.9	6.3	14.7	17.7	12.9	9.2	6.9	9.8	10.8	10.6	10.5	
Industry, total	real, CCPY	-28.3	-26.4	-23.9	-21.9	12.9	9.5	11.3	13.0	13.0	12.3	11.5	11.2	11.2	11.1	11.1	
Industry, total	real, 3MMA	-16.3	-6.4	2.8	9.4	8.7	11.3	13.0	15.1	13.2	9.6	8.6	9.2	10.4	10.6	.	
Construction, total	real, CCPY	-52.4	-51.5	-49.8	-48.2	-24.1	-20.9	-21.4	-21.2	-20.0	-19.3	-16.7	-14.0	-12.6	-9.0	-8.2	
<b>LABOUR</b>																	
Employees total, registered <sup>1)</sup>	th. persons, avg	10534	10506	10451	10374	10740	10723	10738	10724	10693	10694	10685	10657	10713	10718	.	
Employees in industry, registered <sup>1)</sup>	th. persons, avg	2792	2788	2779	2761	2850	2846	2847	2834	2825	2827	2827	2825	2828	2841	.	
Unemployment, registered	th. persons, eop	543	508	512	532	527	530	505	455	419	399	397	396	408	401	450	
Unemployment rate, registered	%, eop	1.9	1.8	1.8	1.9	1.9	1.9	1.8	1.6	1.5	1.4	1.4	1.4	1.5	1.4	1.6	
Labour productivity, industry <sup>1)</sup>	CCPPY	-19.7	-17.5	-14.8	-12.6	17.6	13.7	15.2	16.4	16.0	14.9	13.7	13.1	12.7	12.2	.	
Unit labour costs, exch.r. adj.(EUR) <sup>1)</sup>	CCPPY	-8.8	-13.1	-15.6	-15.4	-9.7	-7.3	-6.2	-5.4	-2.2	1.5	4.5	6.7	8.9	10.2	.	
<b>WAGES <sup>1)</sup></b>																	
Total economy, gross	UAH	1964	1950	1955	2233	1916	1955	2109	2107	2201	2373	2367	2280	2349	2322	.	
Total economy, gross	real, CCPY	-10.9	-10.9	-5.6	-0.6	3.6	1.7	4.5	4.1	9.6	12.1	10.4	9.7	8.2	8.2	.	
Total economy, gross	EUR	169	165	164	191	168	178	195	198	220	245	235	224	228	211	.	
Industry, gross	EUR	189	187	188	192	193	203	232	234	250	266	267	260	264	248	.	
<b>PRICES</b>																	
Consumer	PP	0.8	0.9	1.1	0.9	1.8	1.9	0.9	-0.3	-0.6	-0.4	-0.2	1.2	2.9	0.5	0.3	
Consumer	CCPY	15.0	14.1	13.6	12.3	11.1	11.5	11.0	9.7	8.5	6.9	6.8	8.3	10.5	10.1	9.2	
Consumer	CCPPY	16.8	16.5	16.3	15.9	11.1	11.3	11.2	10.8	10.3	9.8	9.3	9.2	9.3	9.4	9.4	
Producer, in industry	PP	3.6	1.9	0.4	1.0	1.9	1.9	3.0	3.0	4.4	-0.5	-0.2	0.9	0.1	2.4	-0.3	
Producer, in industry	CCPY	1.7	5.1	12.8	14.4	16.3	16.5	18.6	21.7	28.0	25.6	24.4	23.3	19.2	19.8	18.9	
Producer, in industry	CCPPY	5.2	5.2	5.9	6.6	16.3	16.4	17.2	18.3	20.2	21.1	21.6	21.8	21.5	21.3	21.1	
<b>FOREIGN TRADE</b>																	
Exports total (fob), cumulated	EUR mn	20110	22933	25622	28491	2110	4576	7467	10604	13903	17387	20691	23984	27548	30982	.	
Imports total (cif), cumulated	EUR mn	23093	26049	29114	32609	2330	5045	8522	11974	15459	19280	23306	27508	31672	36162	.	
Trade balance, cumulated	EUR mn	-2983	-3115	-3492	-4118	-220	-469	-1055	-1370	-1556	-1893	-2614	-3523	-4124	-5180	.	
<b>FOREIGN FINANCE</b>																	
Current account, cumulated	EUR mn	-647	.	.	-1239	.	.	-128	.	.	117	.	.	-688	.	.	
<b>EXCHANGE RATE</b>																	
UAH/EUR, monthly average	nominal	11.644	11.843	11.917	11.676	11.430	10.953	10.822	10.634	10.000	9.668	10.057	10.180	10.293	10.994	10.867	
UAH/USD, monthly average	nominal	7.999	8.000	7.994	7.978	7.997	8.000	7.967	7.926	7.926	7.916	7.902	7.890	7.910	7.910	7.928	
EUR/UAH, calculated with CPI <sup>2)</sup>	real, Jan07=100	81.9	81.1	81.3	83.5	87.2	92.4	93.7	94.6	99.9	102.8	98.9	98.6	100.2	93.9	95.2	
EUR/UAH, calculated with PPI <sup>2)</sup>	real, Jan07=100	89.4	89.2	88.8	91.5	94.4	100.1	103.6	107.7	119.1	122.1	117.0	116.7	115.2	110.0	111.0	
USD/UAH, calculated with CPI <sup>2)</sup>	real, Jan07=100	91.4	92.1	93.1	94.3	95.4	97.2	98.1	98.1	97.4	97.2	97.2	98.3	100.8	101.2	101.3	
USD/UAH, calculated with PPI <sup>2)</sup>	real, Jan07=100	97.7	98.9	98.1	98.9	98.5	100.8	102.9	105.9	110.4	110.7	110.4	111.3	110.8	112.4	111.2	
<b>DOMESTIC FINANCE</b>																	
Currency outside banks	UAH bn, eop	148.9	148.8	147.9	157.0	153.1	154.0	155.1	159.9	162.1	168.3	175.1	175.1	174.8	175.2	.	
M1	UAH bn, eop	221.5	218.1	220.7	233.7	227.0	227.6	235.5	242.8	249.2	259.5	269.3	271.3	275.4	277.7	.	
Broad money	UAH bn, eop	469.5	468.4	470.4	487.3	479.9	480.4	494.2	510.8	521.4	533.5	550.9	556.2	568.8	576.0	.	
Broad money	CCPY, eop	-1.7	-2.6	-2.8	-5.5	-2.6	2.0	6.6	9.8	11.3	12.9	16.8	18.1	21.2	23.0	.	
Central bank policy rate (p.a.) <sup>3)</sup>	%, eop	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	9.5	8.5	7.8	7.8	7.8	7.8	
Central bank policy rate (p.a.) <sup>3/4)</sup>	real, %, eop	8.5	4.9	-2.3	-3.6	-5.2	-5.3	-7.1	-9.4	-13.8	-12.8	-12.8	-12.6	-9.6	-10.0	-9.4	
<b>BUDGET</b>																	
General gov.budget balance, cum.	UAH mn	-24550	-28414	-15742	-37258	423	-2688	-4367	-1820	-11505	-24979	-25273	-39374	-47454	.	.	

1) Excluding small firms.

2) Adjusted for domestic and foreign (US resp. EU) inflation. Values more than 100 mean real appreciation.

3) Discount rate.

4) Deflated with annual PPI.

Source: wiw Database incorporating national statistics.



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