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Introduction

In the paper it is argued that under the current economic crisis, the international economic position of Poland has deteriorated relatively less when compared with the position of Slovakia – an EU Member State belonging to the euro area. We prove this thesis by analyzing the economic activities and the export positions of both countries, which share similar pasts, as they are the post-communist countries which accessed the EU in the year 2004 and are going different ways today (Poland has remained outside the euro area and Slovakia accessed the euro area in the year 2009). We present the performance of Poland and Slovakia by comparing it with the performance of the other European Union member countries (EU-27) and members of the euro area.

The levels and changes in GDP, GDP *per capita* and trade in goods and services have been analysed. Additionally, the changes in the economic openness of both countries are discussed, followed by conclusions regarding the impact of the export performance on the respective national economies.

The UNCTAD data from the period 1999–2009 have been used, however, due to the large scope of this analysis, only selected years have been taken into consideration. We begin our analysis from 1999, when Poland and Slovakia were undergoing the adjustment process preceding their accession to the EU. Moreover, the euro area was created in the same year. Next, a detailed discussion follows on the performance of both countries in 2004, when they accessed the EU. The following part analyzes the changes in their economic situation during the last economic crisis (2008–2009). Such framework allows analysis on the economic performances and trade volumes during the crisis and under the pre-accession adjustment. The authors expect an increase in trade, in accordance with the theory of trade effects of preferential trade agreements (PTAs) and – in case of Slovakia – with the theory of endogeneity of optimal currency areas (OCAs).

It is argued that Poland's relatively good economic performance during the crisis results from i.a. depreciation of its national currency, which aided the adjustment to the changes in demand on international markets. During the economic crisis the euro area

seemed not to be as uniform as it seemed necessary to satisfy all members connected by the single monetary policy. It needs to be mentioned, however, that the use of a national currency was not a sufficient condition to result in good export performance during the crisis – as confirmed by the example of the United Kingdom.

The rest of the paper is organized as follows: in the part 2, the theory of trade effects of preferential trade agreements and of monetary union¹ is briefly explained. In the part 3, the way of the EU toward the monetary union is presented. In the part 4 the analysis on export and import of Poland and Slovakia is compared with the trade flows of the other EU countries.

Trade effects of economic integration

In this part, we shortly discuss the static and dynamic trade effects of preferential trade agreements represented by a free trade area (FTA) as the most popular form of integration. It is justified to constrain our analysis to the FTA, as the described effects appear already on this level of economic integration. Furthermore, we also analyze both the direct and indirect trade effects of monetary union as an advanced form of economic integration fulfilled by the euro area being part of the EU.

Trade effects of preferential trade agreements. Static trade effects of economic integration are analyzed, i.a. in Baldwin and Wyplosz, 2009. The authors assume perfect competitive markets and analyze two small countries integrated regionally – Home (H) and Partner (P) and the third country deprived of trade preferences (Rest of the World, RoW). Baldwin and Wyplosz prove that after abolition of tariffs on import from the Partner country, prices on the Home market are going down in comparison with the scenario with the non-zero tariffs. This results in the increase of the border price in the country P (member of FTA). Consequently, the volume of imports from P to H increases, what illustrates the trade creation effect. In addition, the decrease in domestic prices in H leads to a reduction of the border prices of goods imported from RoW. Therefore, the volume of export supply from RoW to H becomes smaller. This effect is described as trade diversion (from RoW to P). An additional effect of the existence of the FTA is that the member states impose different national tariffs. This may result in the trade deflection (re-direction of the import streams in favour of the member country with the lowest national tariff).

As far as the dynamic effects of the PTAs are concerned, the main one is a better use of increasing returns to scale (IRS) resulting from market integration. Integration of national markets of the member states allows for more efficient use of IRS and it can also cause the unit costs of production to decrease. The results comprise either lower (consumer) prices or increased (producer) profits. Furthermore, the integration of national markets is also associated with a better allocation of production factors, a deeper spe-

cialization of production and, consequently, with increased efficiency and international competitiveness of goods manufactured in the integrated area. More intensive competition among producers from integrating economies leads to further reduction in prices.

Another advantage worth mentioning is the fact that the domestic markets integration of the member states makes them more attractive to foreign investors. Creation of the PTA may reduce the uncertainty of transactions with economic subjects from the integrated area, which further helps to intensify foreign investment, trade and other forms of economic cooperation. The consequence is tightening of the competition and an increase in an array of goods available on the market.

Finally, in the long run, the product of participation in a regional grouping is its capability to accelerate technological progress and creation of innovation. Regionalization in fact contributes to the spread of knowledge in the economies of the member states.

The impact of monetary union on trade of member countries. There are positive and negative economic and non-economic effects of a monetary integration. Some emerge immediately after the creation of the union, whereas the others appear after a long time. According to the optimum currency areas theory (see Mundell 1961; McKinnon 1963; DeGrauwe 2000; Baldwin and Wyplosz 2009), the balance of costs and benefits associated with membership in monetary union may be different depending upon many conditions. However, it seems that most of the participation costs are concentrated in the macroeconomic sphere, while the benefits in the microeconomic one. The reason for this might be that the latter are often related to the intensity of international cooperation of the integrating countries, especially the volume and characteristics of their foreign trade, both before and after the monetary union is established.

There are two main sources of direct gains to trade from the creation of a monetary union². The first one is the elimination of transaction costs of national currencies' exchange. The second one is the elimination of exchange rate risk arising from uncertainty about the future exchange rates.

Transaction costs of trade consist, i.a. of national currencies' exchange costs, administrative and accounting costs associated with currency conversion transactions. They are mainly born by the companies co-operating with foreign partners (especially nowadays when production becomes more and more international) and by consumers buying foreign goods and services. The consequence of the elimination of currency exchange costs is an increase in gains from monetary union. At the same time, however, companies are exposed to more intense competition in the integrated market of the union.

Since the most foreign exchange transactions are carried out by banks, their profits decrease due to the introduction of a common currency. In addition, as other firms the banks suffer as the result of competition intensification. At the same time, they gain because of the increase in a number of transactions completed with the use of the common

currency (as compared with the number of transactions ran in national currencies of the member countries before the creation of the monetary union). With the reduction of prices (caused by tougher competition, lower costs etc.), both the demand and import increase (trade creation effect).

The elimination of exchange rate volatility in the union affects the substantive and geographic structure of trade. A decline in transaction costs and, consequently, lower prices and higher demand, lead to an increase in quantities demanded. In case of differentiated goods, some of which are imported, the number of available varieties increases. Due to the maintenance of the transaction costs in trade with the third countries, the goods from outside of the area become relatively expensive in comparison with the goods originating within the union. Consumers replace expensive goods from the third countries with cheaper imports from the member countries (trade diversion effect).

Another direct benefit from the monetary union is the elimination of nominal exchange rate volatility and, in consequence, exchange rates stabilization in transactions among the member countries of the monetary union. This results in intensification of the trade in goods and services (about influence of exchange rates volatility on intensity of international trade see e.g. Hooper and Kohlhagen 1978)³.

In addition, apart from the direct benefits and costs mentioned above, there are also indirect benefits and costs of the monetary union creation. They include the elimination of price discrimination in the member states. A common currency increases market transparency. Producers, exporters, importers and consumers gain more information on prices, which become directly comparable across the union. This helps to predict changes in the characteristics and quantity of demand more accurately. As the result, tougher competition leads to, i.a., a decrease in margins and prices (see e.g. Baldwin 2006: 63) and intensification of intra-industry trade. Due to reduced uncertainty and greater market transparency, the transacting parties can make better long-term decisions. The consequence is therefore the general increase in the efficiency of the firms remaining on the market.

Another indirect effect of the monetary union concerns the position of the common currency on the international market. The common currency is likely to gain international importance when compared to the national currencies of the member states before the union is established. The validity of the common currency is of bigger economic potential than every single national currency. This makes it difficult to expose the common currency to a speculative attack. As a result, its credibility in the international monetary system increases. It brings further benefits of becoming an international currency, i.a. seigniorage raised is the greater, the larger the area of currency validity. Trading partners from the monetary union may be considered more reliable than those who remain outside it. This increased reliability particularly benefits the countries whose national currencies were considered relatively weak before the creation of the union.

The change in volume of trade with the countries outside of the area (external trade) can be expected as well. As mentioned above, a tougher competition and lower prices within the monetary union have a positive effect on the competitive position of exporters and the general reliability of the member states in external relations. At the same time, however, participation in a union whose currency is strengthening may worsen the competitive position of exporters from the union against the third countries (exactly like in case of currency appreciation)⁴.

How much the member countries gain from the participation in the monetary union may depend upon the openness of their economies. The previously described benefits from the use of the common currency refer to the countries whose native consumers and producers trade with the outside world. The elimination of the exchange rate risk and the transaction costs is especially important when the member countries are open. The direct correlation between the gains from the monetary union and the openness of its markets is expected (more see: De Grauwe 2007). With increasing openness of the member states, the gains from participation in the monetary union are growing, especially because of elimination of trade costs connected with the use of many volatile national currencies (this view is supported by representatives of Keynesian economics). An alternative approach to trade costs and benefits of monetary integration is this of the representatives of the monetarist economy. In their view, monetary policy cannot prevent the effects of asymmetric shocks. Consequently, it is irrelevant whether a country participating in the monetary union is open or not. Countries gain from monetary integration and intensify their mutual trade, even if initially they don't have open economies. Monetarist view is therefore compatible to the idea of endogeneity of optimum currency areas. According to Frankel and Rose (1997), even if countries do not meet the criterion of market openness *ex ante*, they can gain after the creation of a monetary union as the union itself contributes to the increased openness of its members' economies after the introduction of common currency.

Monetary integration of EU Member States

Although the Treaty of Rome (1957) did not explicitly identify the conditions for a monetary union, it nevertheless assumed that each Member State of the European Community (EC) would work on stabilization of the price level (Article 104) and the balance of payments, as well as on coordination of its monetary policy (Article 105) and exchange rate policy (Art. 107) in the framework of the EC. Monetary cooperation was therefore established already in the 1950s, as a part of economic cooperation of the EC countries. However, in the 60s, the monetary cooperation was of secondary importance in comparison with less advanced forms of economic integration consisting mainly of trade liberalization and of production factors movement.

After several steps toward a monetary integration (i.a. ECU, EMS), since January 1999, the common currency was introduced in eleven (among the fifteen at the time) EU Member States. They were: Austria, Belgium, Finland, France, Germany, Italy, the Netherlands, Ireland, Luxembourg, Portugal and Spain. On 1 January 1999, the non-cash euro replaced the national currencies of these countries. The status of the remaining four member states was defined by the special regulations.

On 1 January 2002, the euro in a form of notes and coins replaced the national currencies of 12 EU member states (the eleven listed above and Greece). In January 2007, the euro was introduced in Slovenia as well, followed by Malta and Cyprus in January 2008, Slovakia in January 2009, and the last country to date – Estonia, joined the euro area in January 2011.

Poland and Slovakia – different scenarios of economic activities under regional integration

Within the last twenty years we witnessed three milestones of the European integration process: firstly, the introduction of the Single Market, secondly the creation of the euro area and finally the Eastern enlargement. Poland takes part in two of them, whereas Slovakia in all three. Poland and Slovakia joined the EU in May 2004, but the former country is still outside the euro area whereas the latter one – as already mentioned – is its member since the year 2009. With the different status within the EU, each of the countries is confronted with different monetary and exchange rate policies. This results in different developments especially under the current economic crisis. The authors of this report analyze economic performance of Poland and Slovakia based on their GDP and trade in goods and services. We comment on export and import separately as they displayed varied shifts patterns. We also discuss changes in openness of Poland and Slovakia. We compare their achievements with the performance of the whole EU, the euro area and the selected EU Member States.

Our research covered the years 1999–2009. As we present data from 27 countries and 2 groupings of countries, we focused our attention to selected years from the analyzed period. We started with the year of creation of the euro area (1999). Then we discuss economic activity in the year 2004, when Poland and Slovakia (with the other countries) accessed the EU. We added also both years of the present economic crisis (2008–2009) to the analysis.

General economic performance. In the year 1999, the Poland's GDP made up 1.8 % of the EU GDP, while Slovakia's GDP – 0.2 % (see Table 1). In 2009, the shares of both countries were bigger (2.6 % and 0.5 % respectively). We analyze two small countries (with Poland ca. 5 times larger than Slovakia) integrated with the big and economically strong surrounding.

In the years 1999–2008, Poland and Slovakia, as well as the whole EU, the euro area and all other EU Member States experienced increases in nominal GDP. Slovakia experienced a growth approximately 5.6 times faster than that of the EU-27, whereas the Poland's growth was 2 times more rapidly in comparison with the growth of the EU-27. In 2009, all EU Member States, with the exception of Malta, recorded a decrease in GDP. Overall, in the analyzed period (1999–2009) Poland and Slovakia, as well as the whole EU and the euro area experienced a growth in GDP. In Poland, it was more than two times slower when compared with Slovakia. The change in volume of the Polish GDP, however, was almost four times larger than the respective change in case of Slovakia. After the EU accession (since 2004) Slovakia had the highest GDP growth rates among all EU-27 countries (though in absolute terms the Poland's change in GDP was again ca. four times larger than this of Slovakia). In the years 2004–2009 Poland grew a little faster than the smallest EU – countries: Slovenia, Estonia, Cyprus, Luxembourg as well as Portugal, but slower than Latvia and the Czech Republic.

If the growth rates of real GDP are considered, the results are quite different (see Table 2). In the year 1999, Poland reported the annual growth of GDP equal to 4.52 %. This rate of growth located Poland on the eight place among all EU Member States. Ireland led at the time with almost 2.4 times faster growth than Poland. In the same year, Slovakia noted a very low GDP growth rate of 0.04 % (and was the fourth worst among all EU countries; worse – with negative growth rates – were only two Baltic countries: Estonia and Lithuania, as well as Romania). In the accession year (2004), Poland and Slovakia experienced a real economic growth of more than 5 %. The only countries to grow faster were Estonia and Lithuania (recovering GDP after difficult pre-accession adjustments, as well as the then out of area countries Bulgaria and Romania). In the year 2008, a few old EU members together with Estonia and Latvia faced an economic crisis (generally during the analyzed period the Estonia's GDP fluctuated widely, though it was the fourth – after Lithuania, Latvia and Slovakia – fastest growing EU – country; Poland with the growth rate of 4.36 % was ranked 6th).

In the crisis year 2009, Poland was the only EU member country which maintained the positive growth rate of the real GDP. Slovakia had reported a negative rate of growth (fall of its GDP was a little larger than the EU-27 average).

More detailed information about economic activity offers the analysis on GDP per capita (GDP pc). For the purpose of this study, the authors analyzed GDP pc in absolute terms (nominal) in Table 3 and in growth rates of real GDP pc (Table 4).

Before the EU accession (1999–2004), the nominal GDP pc of both analyzed countries increased considerably (the Poland's GDP pc increased by 51.6 % and the Slovakia's one more than doubled). After the EU accession (in the period 2004–2009), the Poland's GDP pc almost doubled. At the same time, Slovakia again experienced increase by more than twice. However, during the crisis, GDP pc of both countries decreased: the Polish one by –18.6 % and the Slovak one by –7.4 %. In all analyzed years,

the highest GDP pc in the whole sample were noted by Luxembourg and Denmark. In the year 1999, the Poland's GDP pc was more than eleven times lower than the Luxembourg's one (the Slovakia's one was almost thirteen times lower). This trend remained steady as in the year 2009 the Polish GDP was still almost ten times lower (the Slovak one less than 7 times lower).

In the period 2000–2009, the real GDP pc of Slovakia rose faster than the Poland's one (see Table 4). The Slovakia's real GDP pc was not as stable as the real GDP pc of Poland. In the year 2009, Slovakia experienced a large decrease in the GDP pc (it was larger than in the whole EU-27, the euro area and in Germany: -4.89% when compared with respective: -4.52% , -4.47% and -4.61%). In this year the largest (two-digit) decreases were observed in the post-communist Baltic countries (Estonia preparing itself to the accession into the euro area as well as Latvia and Lithuania staying outside of this area). Poland, as the only EU Member State, achieved a positive growth rate of GDP per capita (1.73%) at that time.

Trade performance. In this section, the trade in goods and services of Poland and Slovakia will be analyzed. The authors comment on import and export separately as both streams of trade change in a different way (though often in the same direction). An additional advantage of using the separate export analysis is the (simultaneous) real possibility for approaching the international competitive positions of the countries in question. We analyze the shares of Polish and Slovak import and export in the world streams of trade as well as their shares in GDP. The last analysis helps the authors to conclude about changes in the openness levels of both countries.

Overall, the Poland's share in the world import increased in the analyzed period, especially after the country's accession into the EU (see Table 5). However, Poland experienced a small decrease during the crisis. Slovakia, despite of the smaller increases, maintained its share in the world import even in the crisis year 2009. Poland's increase in the world import share in the world import was two times larger than the Slovakia's one ($0,4$ p.p. versus $0,2$ p.p.). Moreover, the noted increase in the Poland's share in the world import was the biggest among the entire EU-27 (the share of the whole EU decreased by $3,4$ p.p.; besides of Poland and Slovakia, the shares in import increased in the other EU countries from Central and Eastern Europe not accessing the euro area – Bulgaria, Czech Republic, Hungary and Romania).

Over the entire analyzed period (1999–2009), the Poland's shares in the world import were higher than these in the world export. Even the considerable increase in the Polish share in the world export did not change this (compare data in Tables 5 and 6: Poland increased its shares in the world export more than its shares in the world import (by – respectively – 0.6 p.p. and 0.4 p.p.); the Poland's share in the world export increased by three times more than the respective share of Slovakia). In the year 2009, the share of Polish export was exactly the same as the respective shares of Sweden and Austria (see Table 6). The Slovakia's shares in world import and export stayed on the exactly same

level both at the beginning, as well as at the end of the analyzed period. What is also worth mentioning, as far as export is concerned, neither Poland nor Slovakia decreased their shares in the year of economic crisis (2009). In fact, both countries increased their shares before as well as after the EU accession.

Generally, the analysis on the shares in the world import and export reveals that the post-communist Member States of the EU become more and more important participants of the world trade even during the current economic crisis. Their EU accession has caused intensification of their trade in commodities. They also enjoy benefits from preferential trade possibilities created by the Common Commercial Policy. A decrease in respective shares in many developed EU members was caused not only by the economic crisis, but also by shift in their production specialization toward services.

The next step of our analysis is a discussion on the openness of the EU countries. For the purpose of this study, "openness" is measured differently than it is usually done in the literature. The authors of this study calculated the shares of import and export in GDP separately, as opposed to taking the sum of the import and export and dividing them by GDP. Therefore, the two openness indexes are created: one in import (see Table 7) and one in export (Table 8). Measuring of the openness in the way we propose allows for simultaneous use of the data concerning shares of import for the analysis on the economies' dependence on the foreign goods (in case of shares of export – changes in international competitiveness of the analyzed countries).

Overall, in the analyzed period 1999–2009, both Poland as well as Slovakia achieved much higher levels of openness to import than the whole EU-27 and the euro area (see Table 7). It can be generalized that small as well as less developed EU Member States tend to show relatively high levels of import dependence, which is compatible with theoretical predictions. During the analyzed period, Poland observed an increase in import shares in its GDP by 6.5 p.p. It was the fourth highest result in the whole EU (higher increases were achieved by Belgium, Lithuania and Slovenia – all much smaller countries than Poland; the same result as Poland was achieved by Bulgaria). The Slovakia's respective share increased by 4.7 p.p. After the EU accession (2004–2009) the proportion of import to GDP decreased in both countries (as well as in some other EU member).

The results of our calculations indicate that the Poland's and Slovakia's openness to export was higher than openness of the whole EU and of the euro area (see Table 8). In the year 1999, as well as in the year 2009 Slovakia was more than two times more open to export than the whole EU-27 (more open than Slovakia were only very small EU countries, Hungary and export oriented Ireland). In the years 1999–2009, the Poland's openness to export increased the most significantly within the whole sample, as it almost doubled. This increase was seven times bigger than in all EU-27. The dominating part of these increases appeared before the Poland's EU accession (1999–2004: 13.3 p.p.) as Poland started to enjoy a relatively free access to the EU market and as a consequence of the adjustments to the EU norms and standards put in place and FDI inflows became more intensive. During this peri-

od, Slovakia achieved a large increase in its exports' shares in GDP as well (it was by 1.1 p.p. smaller than the Poland's one). The dominating part of these increases (9.9 p.p.) appeared before the EU-accession for similar reasons as in case of Poland. In the year 2009, the decrease in the export share in the Polish GDP was equal -1 p.p. In Slovakia, it was -11.4 p.p. From our analysis, it could be argued that Slovakia's accession to the euro area negatively influenced its economic performance during the crisis. In the last year of the analysis (2009), Poland became more open to export than the EU-27. In the crisis year 2009, the openness to export of all EU countries (with exceptions of Ireland and Romania) decreased⁵.

In the period 1999–2009, Poland maintained constantly higher shares of import in GDP than shares of export in GDP, although this difference decreased continuously. It is one more proof of improvement in Poland's export position. At the beginning of the analyzed period, Slovakia was twice more open for import and three times more open for export than Poland. In the year 2009, these differences decreased to less than twice in import and twice in export. It also confirms the success of Poland in the catching up process.

Another way to approach the openness and intensity of the mutual integration of the analyzed countries is to discuss their intra EU export⁶. A dominant part of the total export of the new Member States entering the EU in the 21st century was the intra EU export even before the accession. Its shares varied between 57.5 % (Bulgaria's intra EU exports) and 89.6 % (Slovakia's intra – EU exports; both in the year 1999 – see Table 9). Though in the year 1999 both mentioned countries (and the other post-communist countries accessing the EU in the years 2004 and 2007) were not very deeply integrated with the then EU and they were not very similar to the “old” EU members, the pre-accession trade liberalization resulted in intensification of their mutual trade with the other EU countries.

Poland and Slovakia, as well as all other countries from Central and Eastern Europe entering the Union in the year 2004, decreased their shares of intra EU export after the accession (however, Latvia was an exception with a constant share of 73 % before the crisis). In our opinion, this shows an improvement of their international competitive position due to the EU-accession. During the whole period, the Polish and Slovak intra EU export shares were considerably higher (at least by 11.2 p.p. in case of Poland in the year 2008) than the EU-27 average. The comparison of intra EU export shares in the years 2008 and 2009 reveals that during the crisis, Poland and Slovakia (along with many other EU members) increased their involvement in the intra EU trade. It might be argued that this might be the result of intensified protection policies adopted by their trade partners from the rest of the world.

The last part of our analysis takes import and export in services into consideration. In the year 1999 Slovakia had lower shares in the world import and export of services than in the trade in goods (compare data in Tables 5, 6, 10 and 11). Poland had then the relatively higher share in the world export of services. In the year 2009 all indexes for Poland and Slovakia were larger for trade in goods than in services. In contrast, at the same time the EU-27 had higher share in trade in services than in trade with goods.

TABLE 1. Nominal GDP, in billions USD

Country	1999	2004	2008	2009
Austria	211	289	415	381
Belgium	254	361	505	471
Bulgaria	13	25	52	49
Cyprus	10	16	25	24
Czech Republic	60	110	216	190
Denmark	174	245	341	310
Estonia	6	12	24	19
Finland	130	189	270	238
France	1460	2066	2861	2655
Germany	2144	2745	3635	3330
Greece	141	230	345	324
Hungary	49	103	155	129
Ireland	96	185	264	222
Italy	1201	1728	2297	2113
Latvia	7	14	34	26
Lithuania	11	23	47	37
Luxemburg	21	34	58	53
Malta	4	6	8	8
Netherlands	411	610	873	795
Poland	168	253	529	431
Portugal	126	185	252	233
Romania	36	76	204	161
Slovakia	20	42	95	88
Slovenia	22	34	55	49
Spain	618	1044	1594	1464
Sweden	259	362	488	406
United Kingdom	1503	2202	2657	2169
European Union (EU)	9155.5	13187.2	18299.1	16374.4
Euro area	6875.5	9775.5	13575.2	12466.6

Source: own calculation based on: <http://www.unctad.org> [4.05.2011]

TABLE 2. Annual growth rates of real GDP and average in the period 2000–2009, in %

Country	2000–2009	1999	2004	2008	2009
Austria	2.01	3.34	2.54	2.18	-3.89
Belgium	1.71	3.54	3.23	1.00	-2.75
Bulgaria	5.39	4.44	6.75	6.19	-4.95
Cyprus	3.37	4.83	4.22	3.62	-1.74
Czech Republic	4.13	1.34	4.48	2.46	-4.15
Denmark	1.18	2.56	2.30	-0.87	-4.74
Estonia	5.59	-0.30	7.23	-5.06	-13.90
Finland	2.53	3.90	4.11	0.92	-8.02
France	1.48	3.30	2.47	0.22	-2.63
Germany	0.98	2.01	1.21	0.99	-4.72
Greece	3.47	3.42	4.37	1.25	-2.29
Hungary	2.56	4.13	4.52	0.83	-6.69
Ireland	3.74	10.65	4.60	-3.55	-7.58
Italy	0.53	1.46	1.53	-1.32	-5.04
Latvia	6.23	3.25	8.68	-4.24	-17.95
Lithuania	6.30	-1.07	7.35	2.93	-14.74
Luxemburg	3.67	8.42	4.40	1.44	-3.68
Malta	1.98	4.72	0.90	2.57	-2.12
Netherlands	1.74	4.68	2.24	1.88	-3.92
Poland	4.36	4.52	5.34	5.13	1.65
Portugal	0.77	4.08	1.56	0.03	-2.58
Romania	5.55	-1.15	8.49	7.35	-7.14
Slovakia	5.81	0.04	5.06	5.82	-4.78
Slovenia	3.80	5.37	4.29	3.74	-8.13
Spain	2.78	4.75	3.27	0.86	-3.72
Sweden	2.40	4.66	4.23	-0.41	-5.14
United Kingdom	1.90	3.47	2.95	-0.07	-4.99
European Union (EU)	1.72	3.08	2.53	0.51	-4.24
Euro area	1.49	2.97	2.18	0.44	-4.11

Source: own calculation based on: <http://www.unctad.org> [4.05.2011]

TABLE 3. GDP per capita at current prices and current exchange rates, in thousands USD

Country	1999	2004	2008	2009
Austria	26.42	35.31	49.74	45.56
Belgium	25.00	34.85	47.72	44.25
Bulgaria	1.64	3.25	6.83	6.46
Cyprus	14.23	21.44	32.23	29.60
Czech Republic	5.88	10.76	20.94	18.34
Denmark	32.73	45.30	62.44	56.69
Estonia	4.14	8.92	17.57	14.37
Finland	25.23	36.14	50.99	44.69
France	24.12	33.06	44.72	41.30
Germany	26.13	33.32	44.18	40.53
Greece	12.90	20.83	31.00	29.01
Hungary	4.79	10.17	15.53	12.89
Ireland	25.68	45.19	59.42	49.12
Italy	21.06	29.64	38.53	35.29
Latvia	3.05	5.97	14.91	11.50
Lithuania	3.11	6.56	14.24	11.21
Luxembourg	49.12	74.34	120.82	108.71
Malta	10.11	14.01	20.65	19.54
Netherlands	26.00	37.55	52.84	47.89
Poland	4.36	6.61	13.89	11.31
Portugal	12.39	17.62	23.61	21.81
Romania	1.62	3.49	9.57	7.57
Slovakia	3.81	7.83	17.50	16.20
Slovenia	11.18	16.88	27.12	24.33
Spain	15.47	24.58	35.83	32.61
Sweden	29.25	40.15	52.97	43.90
United Kingdom	25.50	36.59	43.24	35.11
European Union (EU)	18.99	26.91	36.83	32.86
Euro area	21.91	30.40	41.42	37.89

Source: own calculation based on: <http://www.unctad.org> [4.05.2011]

TABLE 4. Annual growth rates of real GDP per capita, and average in the period 2000–2009, in %

Country	2000–2009	1999	2004	2008	2009
Austria	1.50	3.23	1.90	1.81	-4.19
Belgium	1.21	3.32	2.74	0.44	-3.27
Bulgaria	6.08	5.26	7.44	6.87	-4.34
Cyprus	1.72	3.69	1.89	2.38	-3.16
Czech Republic	3.97	1.56	4.48	1.96	-4.61
Denmark	0.91	2.15	2.01	-1.11	-4.95
Estonia	5.83	0.44	7.49	-4.96	-13.83
Finland	2.20	3.68	3.81	0.52	-8.38
France	0.86	2.85	1.77	-0.32	-3.12
Germany	0.96	1.98	1.13	1.08	-4.61
Greece	3.25	3.02	4.17	1.02	-2.50
Hungary	2.81	4.41	4.81	1.03	-6.51
Ireland	1.75	9.35	2.48	-5.33	-9.19
Italy	-0.02	1.48	0.90	-1.81	-5.46
Latvia	6.86	4.11	9.38	-3.82	-17.61
Lithuania	7.03	-0.35	7.86	4.02	-13.85
Luxembourg	2.45	7.00	3.17	0.27	-4.78
Malta	1.41	4.17	0.20	2.24	-2.42
Netherlands	1.27	4.08	1.75	1.46	-4.29
Poland	4.47	4.67	5.47	5.20	1.73
Portugal	0.24	3.63	0.92	-0.31	-2.85
Romania	6.01	-0.69	8.98	7.79	-6.77
Slovakia	5.76	-0.02	5.03	5.71	-4.89
Slovenia	3.60	5.20	4.12	3.48	-8.36
Spain	1.50	4.19	1.77	-0.13	-4.62
Sweden	1.90	4.65	3.67	-0.90	-5.60
United Kingdom	1.40	3.15	2.45	-0.61	-5.50
European Union (EU)	1.36	2.94	2.12	0.19	-4.52
Euro area	0.98	2.72	1.59	0.03	-4.47

Source: own calculation based on: <http://www.unctad.org> [4.05.2011]

TABLE 5. Shares in world import, in %

Economy of:	1999	2004	2008	2009
Austria	1.2	1.3	1.1	1.1
Belgium	2.8	3.0	2.8	2.8
Bulgaria	0.1	0.2	0.2	0.2
Cyprus	0.1	0.1	0.1	0.1
Czech Republic	0.5	0.7	0.9	0.8
Denmark	0.8	0.7	0.7	0.7
Estonia	0.1	0.1	0.1	0.1
Finland	0.5	0.5	0.6	0.5
France	5.4	5.0	4.3	4.4
Germany	8.1	7.5	7.2	7.4
Greece	0.5	0.6	0.5	0.5
Hungary	0.5	0.6	0.7	0.6
Ireland	0.8	0.7	0.5	0.5
Italy	3.8	3.7	3.4	3.2
Latvia	0.1	0.1	0.1	0.1
Lithuania	0.1	0.1	0.2	0.1
Luxemburg	0.2	0.2	0.2	0.2
Malta	0.0	0.0	0.0	0.0
Netherlands	3.5	3.4	3.5	3.5
Poland	0.8	0.9	1.3	1.2
Portugal	0.7	0.6	0.5	0.6
Romania	0.2	0.3	0.5	0.4
Slovakia	0.2	0.3	0.4	0.4
Slovenia	0.2	0.2	0.2	0.2
Spain	2.3	2.7	2.5	2.3
Sweden	1.2	1.1	1.0	0.9
United Kingdom	5.5	5.0	3.8	3.8
European Union (EU)	40.0	39.6	37.4	36.6
Euro area	30.3	29.8	27.9	27.6

Source: own calculation based on: <http://www.unctad.org> [4.05.2011]

TABLE 6. Shares in world export, in %

Economy of:	1999	2004	2008	2009
Austria	1.2	1.3	1.1	1.1
Belgium	3.1	3.3	2.9	3.0
Bulgaria	0.1	0.1	0.1	0.1
Cyprus	0.0	0.0	0.0	0.0
Czech Republic	0.5	0.7	0.9	0.9
Denmark	0.9	0.8	0.7	0.7
Estonia	0.1	0.1	0.1	0.1
Finland	0.7	0.7	0.6	0.5
France	5.7	4.9	3.7	3.8
Germany	9.5	9.9	8.9	9.0
Greece	0.2	0.2	0.2	0.2
Hungary	0.4	0.6	0.7	0.7
Ireland	1.2	1.1	0.8	0.9
Italy	4.1	3.8	3.4	3.2
Latvia	0.0	0.0	0.1	0.1
Lithuania	0.0	0.1	0.1	0.1
Luxemburg	0.1	0.2	0.2	0.2
Malta	0.0	0.0	0.0	0.0
Netherlands	3.8	3.9	3.9	4.0
Poland	0.5	0.8	1.1	1.1
Portugal	0.4	0.4	0.3	0.3
Romania	0.1	0.3	0.3	0.3
Slovakia	0.2	0.3	0.4	0.4
Slovenia	0.1	0.2	0.2	0.2
Spain	1.8	2.0	1.7	1.8
Sweden	1.5	1.3	1.1	1.1
United Kingdom	4.8	3.8	2.8	2.8
European Union (EU)	41.3	40.9	36.5	36.7
Euro area	32.4	32.2	28.5	28.7

Source: own calculation based on: <http://www.unctad.org> [4.05.2011]

TABLE 7. Shares of import in GDP, in %

Economy of:	1999	2004	2008	2009
Austria	33.8	41.4	44.3	37.5
Belgium	64.9	79.0	91.9	74.4
Bulgaria	41.2	57.2	70.9	47.7
Cyprus	37.0	34.7	42.0	32.9
Czech Republic	49.0	63.8	65.5	55.0
Denmark	26.3	27.8	32.1	26.6
Estonia	60.0	69.2	67.6	52.6
Finland	24.7	27.2	33.8	25.2
France	21.6	22.8	24.5	20.7
Germany	22.1	26.0	32.5	27.9
Greece	21.7	22.9	25.9	18.4
Hungary	56.9	58.8	69.8	60.5
Ireland	48.6	33.3	31.7	28.0
Italy	18.4	20.5	24.4	19.3
Latvia	40.4	51.5	47.8	37.0
Lithuania	42.2	54.8	65.5	49.3
Luxembourg	53.0	58.7	54.2	45.9
Malta	72.8	64.8	56.6	45.0
Netherlands	50.2	52.3	66.2	55.9
Poland	27.4	35.4	39.3	33.9
Portugal	31.7	29.7	35.5	29.8
Romania	28.9	43.1	41.0	33.5
Slovakia	58.1	70.7	77.9	62.8
Slovenia	45.5	52.6	67.5	53.6
Spain	21.9	24.7	26.3	19.6
Sweden	26.5	27.7	34.1	29.2
United Kingdom	21.6	21.3	23.7	22.1
European Union (EU)	25.7	28.4	33.6	28.1
Euro area	25.9	28.8	33.9	27.9

Source: own calculation based on: <http://www.unctad.org> [4.05.2011]

TABLE 8. Shares of export in GDP, in %

Economy of:	1999	2004	2008	2009
Austria	31.3	40.9	43.5	36.0
Belgium	70.6	84.8	93.0	78.2
Bulgaria	29.9	39.3	43.0	33.6
Cyprus	10.2	6.0	6.4	5.3
Czech Republic	43.6	62.9	67.7	59.3
Denmark	28.9	31.4	34.1	30.0
Estonia	52.8	49.2	52.6	46.7
Finland	32.5	32.5	35.5	26.2
France	22.3	21.8	20.9	17.9
Germany	25.4	33.1	39.6	33.5
Greece	7.9	6.6	7.4	6.2
Hungary	50.8	54.0	69.5	64.8
Ireland	74.1	56.4	47.5	51.4
Italy	19.6	20.4	23.5	19.1
Latvia	23.6	29.1	30.0	29.3
Lithuania	25.1	41.2	49.8	44.5
Luxembourg	38.8	47.6	43.5	39.2
Malta	50.7	44.8	34.9	26.2
Netherlands	53.2	58.5	72.7	62.5
Poland	16.3	29.6	32.1	31.1
Portugal	19.5	19.3	22.1	18.5
Romania	23.6	31.0	24.1	25.1
Slovakia	49.9	65.7	75.0	63.6
Slovenia	38.6	48.4	62.2	53.1
Spain	16.9	17.5	17.6	14.9
Sweden	32.8	34.0	37.4	32.1
United Kingdom	18.1	15.7	17.2	16.2
European Union (EU)	25.8	28.5	32.1	27.8
Euro area	27.0	30.2	33.8	28.5

Source: own calculation based on: <http://www.unctad.org> [4.05.2011]

TABLE 9. Intra EU export as share of total export, in %

Economy of:	1999	2004	2008	2009
Austria	76.7	73.4	72.1	71.1
Belgium	78.7	77.2	77.1	75.9
Bulgaria	57.5	62.2	59.9	64.3
Cyprus	46.0	61.3	49.6	51.9
Czech Republic	87.3	86.9	85.2	84.7
Denmark	65.3	64.6	63.7	61.5
Estonia	76.9	72.9	63.4	60.0
Finland	63.1	56.2	55.9	55.5
France	67.2	66.9	63.6	62.0
Germany	64.0	64.7	63.7	62.9
Greece	66.4	64.8	64.0	64.4
Hungary	84.5	83.2	78.3	78.9
Ireland	66.1	62.6	62.3	61.0
Italy	63.5	61.4	58.3	56.9
Latvia	77.7	73.0	73.0	71.6
Lithuania	71.4	67.2	60.4	64.3
Luxembourg	87.4	86.3	85.4	82.7
Malta	49.1	47.6	43.6	42.9
Netherlands	75.1	78.1	76.2	77.7
Poland	81.8	80.3	77.9	79.4
Portugal	84.2	66.7	68.6	73.1
Romania	73.2	75.0	70.5	74.5
Slovakia	89.6	86.7	85.2	85.9
Slovenia	73.8	68.1	69.0	70.0
Spain	73.9	73.5	68.0	70.7
Sweden	62.1	58.7	59.7	58.2
United Kingdom	57.4	58.2	56.5	54.8
European Union (EU)	67.7	67.9	66.7	66.3
Euro area	68.7	68.4	66.8	66.5

Source: own calculation based on: <http://www.unctad.org> [4.05.2011]

TABLE 10. Shares in total world import of services, in %

Economy of:	1999	2004	2008	2009
Austria	1.19	1.26	1.17	1.14
Belgium	2.16	2.21	2.27	2.29
Bulgaria	0.10	0.15	0.16	0.14
Cyprus	0.11	0.12	0.14	0.13
Czech Republic	0.40	0.41	0.49	0.58
Denmark	1.27	1.50	1.70	1.57
Estonia	0.06	0.08	0.09	0.08
Finland	0.53	0.66	0.83	0.70
France	4.37	4.49	3.87	3.92
Germany	9.76	8.86	7.95	7.83
Greece	0.64	0.63	0.68	0.62
Hungary	0.30	0.46	0.51	0.50
Ireland	1.84	2.95	2.98	3.18
Italy	4.00	3.75	3.56	3.59
Latvia	0.05	0.05	0.09	0.07
Lithuania	0.05	0.07	0.12	0.09
Luxembourg	0.82	0.94	1.13	1.11
Malta	0.05	0.05	0.06	0.06
Netherlands	3.42	3.13	2.53	2.63
Poland	0.48	0.60	0.83	0.74
Portugal	0.51	0.43	0.45	0.44
Romania	0.12	0.17	0.32	0.31
Slovakia	0.13	0.16	0.25	0.25
Slovenia	0.11	0.12	0.14	0.14
Spain	2.21	2.67	2.86	2.67
Sweden	1.57	1.49	1.45	1.41
United Kingdom	6.72	6.75	5.56	5.13
European Union (EU)	42.99	44.16	42.19	41.30
Euro area	31.85	32.41	30.85	30.68

Source: own calculation based on: <http://www.unctad.org> [4.05.2011]

TABLE 11. Shares in total world exports of services, in %

Economy of:	1999	2004	2008	2009
Austria	1.63	1.66	1.60	1.56
Belgium	2.26	2.30	2.26	2.37
Bulgaria	0.12	0.18	0.21	0.20
Cyprus	0.27	0.27	0.31	0.29
Czech Republic	0.49	0.42	0.56	0.59
Denmark	1.39	1.59	1.86	1.61
Estonia	0.10	0.12	0.13	0.13
Finland	0.45	0.66	0.82	0.73
France	5.67	5.00	4.31	4.20
Germany	5.83	6.44	6.72	6.77
Greece	1.15	1.44	1.30	1.11
Hungary	0.36	0.47	0.52	0.53
Ireland	1.09	2.30	2.61	2.83
Italy	4.08	3.69	3.09	3.01
Latvia	0.07	0.08	0.12	0.11
Lithuania	0.08	0.11	0.12	0.11
Luxembourg	1.19	1.48	1.83	1.79
Malta	0.08	0.07	0.10	0.10
Netherlands	3.61	3.22	2.71	2.73
Poland	0.58	0.59	0.91	0.85
Portugal	0.64	0.64	0.68	0.67
Romania	0.09	0.16	0.33	0.29
Slovakia	0.13	0.16	0.22	0.18
Slovenia	0.13	0.15	0.19	0.18
Spain	3.63	3.76	3.69	3.60
Sweden	1.38	1.70	1.86	1.80
United Kingdom	8.27	8.63	7.44	6.93
European Union (EU)	44.80	47.31	46.51	45.27
Euro area	31.86	33.26	32.44	32.12

Source: own calculation based on: <http://www.unctad.org> [4.05.2011]

Conclusions

Before the current economic crisis, Poland and Slovakia succeeded in developing their economies and improving their position in international trade. However, Poland performed better during the crisis. The relatively poor performance of Slovakia might be justified by lack of its national monetary policy, especially exchange rate policy enabling to decrease disequilibria of trade balances under still imperfect mobility of production factors in the EU. Moreover, other EU countries employed varied strategies in order to tackle the economic crisis.

Until 2009, Poland staying outside of the euro area coped with the crisis surprisingly well. It succeeded to devalue its national currency, which would not be possible for a member of the euro area. This helped to maintain a relatively high level of export. However, it seems that deeper integration with other EU countries can change the past balance of costs and gains from staying outside of the European monetary union in favour of accepting the common European currency.

Notes

¹ We are aware of the fact that the scope of regional agreements is different than PTAs and monetary unions. However as we concentrate on trade effects therefore a detailed discussion of all forms of regional agreements is deliberately omitted in this paper.

² Also one-time (necessary) costs of entry into a monetary union are considered to be the direct costs of its creation. These include, i.a. the cost of information systems, processing financial data, new tariffs, safeguards against forgery of a common currency and rounding of prices after the adoption of the common currency. As most theorists we also ignore these costs.

³ The situation is different if exporters see an exchange rate risk as a source of potential profits (see De Grauwe, 1988). We postpone such scenario. De Grauwe (1988) proves that even if producers are risk averse, an increase in risk can move them to increase export volume to avoid a large drop in their export revenue.

⁴ The devaluation (depreciation) of the currency of a member country has a similar effect as imposing tariffs on all imported goods and subsidizing that country's export. The results of the member country's currency revaluation (appreciation) are exactly opposite: it restricts its export and encourages import constituting a burden for development of member countries with strong currencies.

⁵ The data show very low (one-digit) shares of export in GDP of Greece and Cyprus. Moreover, the respective shares are lower than before the accessions of these countries into the euro area. This observation confirms the hypothesis about the euro area as not an optimal currency area. This result seems to be opposite to the endogeneity concept of Frankel and Rose, 1997). It needs stating that this result would not be visible when calculating openness in a traditional way (as the relation of the sum of import and export to GDP) what additionally justifies our approach.

⁶ We concentrate on export acknowledging the fact that in intra EU trade an export of one Member State is an import of the other.

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