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# Monetary Integration in Europe in the Function of Fostering International Business

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## Abstract

Through joining the European Economic and Monetary Union a heterogeneous influence of member states cannot be avoided but all countries follow the logic of the economic benefits of unification. Besides reducing transaction costs, greater transparency in prices and the elimination of the uncertainty of exchange rate fluctuations, there is a great impact of open borders on increasing trade between member states. Therefore in this article we will analyze the Andrew Rose effect which estimated that *countries with same currency trade over three times as much with each other as countries with different currencies*. Through objective and systematic analysis we will conclude that the positive effect of monetary integration on increasing of international trade should be carried out in absolute and relative terms.

**Keywords:** monetary integration, European Economic and Monetary Union, international trade, international business

**JEL classification:** F150

## Introduction

For various political and economic reasons, the countries can join together and form monetary union. The need to create some form of universal payment dates back to ancient times. In the past, monetary arrangements differ in terms of currency, the functions and organization of the central bank and the degree of political integration. Although they applied different models of monetary integration, it is obvious that the monetary union was often the result of political union and compromise. In contrast, the Economic and Monetary Union, which was formed in 1999 with the single European Central Bank and a single currency, is a kind of experiment, because it is formed without political unification. Will the state with monetary unification achieve the expected benefits of reducing transaction costs of exchange, greater price transparency, elimination of the uncertainty of exchange rate fluctuations, reducing the balance of payments deficit, greater macroeconomic stability, etc., depends on several factors, primarily, of the methods for measuring the economic benefits of unification because they are very difficult to quantify.

The issue of success of monetary integration in economic theory is viewed in the theory of optimal currency areas, which specifies the conditions under which monetary policy can be optimal and long-lasting. Monetary integration in the world is more complicated than conclusions of Robert Mundell and his too simplified model of optimal currency areas, "Mundell, 1961", due to lack of Mundell research because Mundell considered the model of unification only two states and excluded the mobility of capital (in the '60s of the last century, capital mobility was limited), "Kenen, Meade, 2008". If states do not meet the criteria of the model of optimal currency area *ex ante*, that does not mean they will not achieve these criteria *ex post*, because it is possible that with strong political will and institutions and stable

macroeconomic policy the countries later realize that optimal currency area. Economic theory clearly indicates that in a monetary union it comes to increasing trade and international business between Member States. Increasing trade among Member States, which form a monetary union, is the result which is realized due to the benefits of monetary integration. In order to increase trade between countries, it is necessary to reduce the transaction costs of exchange, to increase price transparency and to eliminate the uncertainty of exchange rate fluctuations.

When considering the impact of EMU on increasing trade of Member States, it is necessary to analyze Andrew Rose affect, "Rose, 2000". It's estimated that *countries with same currency trade over three times as much with each other as countries with different currencies*, which will be the subject of this research.

## The impact of monetary integration on the increase of international trade

Since 1998, internal trade EMU i.e. trade between the EMU countries was increasing. The value of exports and imports of goods within the Eurozone increased from 26% of GDP in 1998, a year before the introduction of the euro on 33% of GDP in 2007. Trade in services during the same period increased from 5% to 7% of GDP. In 2007, trade between Member States accounted for 50% of the total trade of the EMU (ECB, 2010) Is there an impact of EMU on increasing trade and whether the global financial crisis has affected trade can be seen from Table 1 below.

Table 1

The Share of Imports of the EMU Countries in Total EU Imports, in percentage

GEO/TIME	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Belgium	6.0	5.9	6.1	6.0	6.1	5.9	6.3	6.2	6.8	7.0
Bulgaria	0.4	0.4	0.6	0.7	0.5	0.5	0.5	0.6	0.6	0.6
Czech Republic	1.0	1.1	1.2	1.4	1.3	1.6	1.6	1.5	1.5	1.6
Denmark	1.5	1.4	1.3	1.3	1.4	1.2	1.2	1.2	1.3	1.4
Germany	18.7	19.1	18.8	18.4	19.0	19.1	19.0	18.5	18.9	18.7
Estonia	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1
Ireland	1.5	1.3	1.3	1.1	1.3	1.0	0.8	0.9	0.9	1.0
Greece	1.5	1.6	1.7	1.8	1.8	1.6	1.4	1.5	1.5	1.5
Spain	7.0	7.3	7.3	7.3	6.4	6.6	6.7	6.7	6.8	6.9
France	11.1	9.7	9.7	9.8	10.0	9.5	9.8	9.6	9.8	9.6
Croatia	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.2
Italy	10.5	10.8	10.8	10.8	10.1	10.7	10.7	9.9	9.5	9.1
Cyprus	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Latvia	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2
Lithuania	0.4	0.4	0.4	0.6	0.4	0.5	0.6	0.6	0.6	0.6
Luxembourg	0.4	0.5	0.4	0.3	0.4	0.2	0.2	0.3	0.3	0.2
Hungary	1.4	1.3	1.5	1.5	1.4	1.4	1.3	1.2	1.3	1.2
Malta	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Netherlands	12.5	12.5	12.6	12.9	13.1	13.6	13.4	13.9	14.1	14.2
Austria	1.6	1.6	1.7	1.7	1.8	1.7	1.8	1.8	1.9	1.9
Poland	1.7	2.0	2.2	2.5	2.4	2.6	2.6	2.8	2.9	3.0
Portugal	1.0	0.9	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9
Romania	1.0	1.1	1.0	1.1	0.8	0.8	0.9	0.8	0.8	0.9
Slovenia	0.2	0.2	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.5
Slovakia	0.5	0.6	0.8	0.9	0.8	0.9	0.9	0.9	0.9	0.9
Finland	1.3	1.5	1.5	1.5	1.2	1.2	1.3	1.2	1.2	1.1
Sweden	2.2	2.3	2.2	2.2	2.2	2.4	2.3	2.3	2.2	2.3
United Kingdom	15.5	15.6	14.9	13.7	15.2	14.8	14.5	15.6	14.0	14.4

Source: Eurostat

If we look at the period before and after the global financial crisis, it can be concluded that in relative terms the crisis has not affected to a greater extent the trade flows in the EU. Also, if we look at the founding states and new member states of EMU, it can be concluded that there is no Andrew Rose effect, speaking in relative terms. If we are considering states in the regime of exemptions<sup>1</sup>, in Denmark and Sweden there are not any changes, while in Great Britain slight decline in imports was recorded from 15.5% in 2005 to 14.4% in 2014.

In order to determine the actual existence of Andrew Rose effect, the import of countries in absolute terms must be considered, as can be seen in Table 2. In absolute terms, it is evident that the impact of the global financial crisis in 2009 reduced the trade for about 30%. In the reporting period, state regime of exemptions have increased imports by 20%, while Sweden increased imports by 25%. EMU countries that joined the EU in 2004<sup>2</sup>, in the period 2005-2014 increased imports by 100%, except Cyprus.

Table 2

Import of the EMU Countries and EU countries in the Regime of Exemptions, in millions of euro

GEO/TIME	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Estonia</b>	8.230	10.711	11.439	10.896	7.270	9.268	12.543	13.848	13.684	13.735
<b>Cyprus</b>	5.077	5.518	6.286	7.237	5.617	6.464	6.234	5.678	4.754	5.075
<b>Latvia</b>	6.991	9.191	11.180	10.975	7.034	8.819	11.703	13.409	13.451	13.212
<b>Lithuania</b>	12.498	15.429	17.813	21.144	13.123	17.653	22.826	24.882	26.208	26.531
<b>Malta</b>	2.988	3.430	3.503	3.604	3.210	3.818	4.520	5.135	4.606	4.883
<b>Slovenia</b>	16.346	19.227	23.027	25.180	19.004	22.700	25.522	24.934	25.129	25.656
<b>Slovakia</b>	27.851	35.828	44.229	50.253	39.898	49.050	57.358	60.241	61.543	61.838
<b>Denmark</b>	60.752	68.100	71.526	74.356	59.602	62.648	68.724	71.548	72.725	74.672
<b>Sweden</b>	89.781	101.583	111.803	114.565	85.945	112.352	127.174	127.649	120.931	122.376
<b>United Kingdom</b>	417.389	487.951	465.715	447.228	372.581	445.874	486.446	537.487	493.807	514.643

Source: Eurostat

<sup>1</sup> Britain and Denmark are members of the EU and they are in opt-out clause i.e. in the regime of exemptions and they have not joined EMU. Sweden is also in a referendum rejected that as an EU member approaches EMU in 1999.

<sup>2</sup> Slovenia became an EMU member in 2007, Cyprus and Malta in 2008, Slovakia in 2009 and Estonia in 2011, Latvia in 2013 and Lithuania in 2014

Table 3

The Share of Exports of the Member Countries in Total EU Exports, in percentage

GEO/TIME	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Belgium	5.9	6.0	6.1	5.6	5.9	6.1	6.2	6.2	6.1	6.1
Bulgaria	0.3	0.4	0.4	0.5	0.4	0.4	0.5	0.5	0.5	0.5
Czech Republic	0.8	0.9	1.0	1.1	1.1	1.2	1.3	1.4	1.3	1.4
Denmark	1.9	1.8	1.8	1.8	2.0	1.8	1.8	1.8	1.7	1.8
Germany	26.4	27.6	27.3	27.3	27.4	27.8	27.6	28.0	27.0	28.0
Estonia	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2
Ireland	3.0	2.8	2.6	2.4	2.9	2.7	2.5	2.2	2.1	2.3
Greece	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.9	0.8	0.8
Spain	4.1	4.2	4.4	4.4	4.5	4.4	4.7	5.0	5.1	5.2
France	12.9	11.8	11.4	11.5	11.9	11.4	10.8	10.8	10.2	10.2
Croatia	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
Italy	10.9	11.0	11.3	11.4	11.1	10.5	10.5	10.6	10.4	10.6
Cyprus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Latvia	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Lithuania	0.3	0.4	0.4	0.5	0.4	0.5	0.5	0.5	0.6	0.6
Luxembourg	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1
Hungary	0.9	1.0	1.1	1.1	1.1	1.1	1.2	1.1	1.0	1.0
Malta	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Netherlands	6.2	6.6	7.1	6.9	7.3	7.3	7.1	7.3	7.1	7.2
Austria	2.6	2.5	2.5	2.5	2.4	2.4	2.3	2.3	2.3	2.4
Poland	1.4	1.6	1.7	1.9	1.8	1.8	1.9	2.0	2.2	2.2
Portugal	0.6	0.7	0.7	0.8	0.7	0.7	0.7	0.8	0.8	0.8
Romania	0.6	0.7	0.7	0.8	0.7	0.8	0.8	0.8	0.9	0.9
Slovenia	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Slovakia	0.3	0.4	0.4	0.5	0.5	0.6	0.5	0.6	0.6	0.6
Finland	2.2	2.3	2.3	2.2	1.8	1.8	1.6	1.6	1.4	1.4
Sweden	4.1	4.1	3.9	3.8	3.6	3.8	3.8	3.4	3.1	3.0
United Kingdom	13.0	11.6	11.0	10.9	10.5	10.9	11.7	10.9	13.3	11.6

Source: Eurostat

Table 4

Export of the EMU Countries and EU Countries in the Regime of Exemptions, in millions of euro

GEO/TIME	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Estonia	6.202	7.719	8.034	8.470	6.487	8.743	12.003	12.518	12.310	12.083
Cyprus	1.177	1.062	1.017	1.110	901	1.058	1.306	1.354	1.520	1.359
Latvia	4.149	4.902	6.062	6.897	5.522	7.191	9.433	10.983	10.893	10.942
Lithuania	9.490	11.263	12.509	16.077	11.797	15.651	20.151	23.048	24.545	24.401
Malta	1.928	2.226	2.508	2.367	2.049	2.705	3.151	3.308	2.738	2.117
Slovenia	15.471	18.501	21.964	23.204	18.768	22.026	24.968	25.033	25.614	27.190
Slovakia	25.632	33.340	42.696	48.370	40.208	48.777	57.349	62.742	64.565	65.161
Denmark	68.420	73.716	75.280	79.496	67.382	72.747	80.362	82.090	82.901	83.424
Sweden	105.266	117.707	123.179	124.645	93.763	119.597	134.313	134.387	126.147	123.726
United Kingdom	314.171	359.117	322.387	321.028	254.704	313.766	363.915	367.990	407.325	380.538

Source: Eurostat

If we look at all Member States, it can be concluded that trade of EMU and the EU countries increased over the years and the share of trade in GDP of EMU countries is grown. Increasing the share of trade in the total GDP of the EMU, can best be seen in the share of the trade in total GDP of EMU, US, Japan, China and Russia, as is shown in Table 5.

Table 5

The Share of Exports and Imports of Goods and Services as a Percentage of GDP

	Imports						Exports					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
<b>Euro area</b>	40.1	41.1	35.5	40.0	42.9	43.2	41.5	42.0	36.9	41.3	44.3	45.8
<b>Japan</b>	16.1	17.5	12.3	14.0	16.1	16.6	17.7	17.7	12.7	15.2	15.1	14.7
<b>United States</b>	16.4	17.4	13.7	15.8	17.2	16.9	11.5	12.5	11.0	12.3	13.5	13.5
<b>China</b>	29.6	27.3	22.3	25.6	25.9	24.5	38.4	35.0	26.7	29.4	28.5	27.3
<b>Russian Federation</b>	21.5	22.1	20.5	21.1	21.8	22.1	30.2	31.3	27.9	29.2	30.4	29.4

Source: OECD

The share of exports and imports of goods and services as percentage of GDP is higher than most developed countries of the world. Despite the impact of the crisis of 2009, exports to EMU accounts for half of GDP, while in all other highly developed countries, despite lower growth, that share is much smaller and consists of up to 30% in China and Russia and does not exceed 20% in Japan and United States.

## Data and Methodology

Of great benefit in this research is the application of analytical research methods, which allow individual identification of significant factors affecting the increase in trade. Its application enables us to further define and study the effects of trade in the member countries of the European Monetary Union. The paper was used and the comparative method. The purpose of its use was to contribute to the comparison of the same phenomenon in different countries, or to point to an increase in the level of trade in the countries of the European Monetary Union. In order to facilitate the grouping, sorting and comparison of quantitative research results was used statistical methods. Analysis of the economic parameters will be based on the application of the statistical trend. The data used for this study were obtained from official data of Eurostat, the European Commission and The Organisation for Economic Co-operation and Development (OECD)

## Results

If we observe the share of exports of the Member States in the period before and after the global financial crisis, it can be concluded as with the share of imports that in relative terms the crisis has not affected to a greater extent the trade flows in the EU. Also, if we look at the founding states and new member states of EMU, it can be concluded that there is no Rose effect, speaking in relative terms. In the case of countries in the regime of exemptions there is a drop in the share of exports in the reporting period.

But speaking in absolute terms, the situation is quite different and it can be said that Andrew Rose effect exists. Despite a reduction in exports by more than 30% in

2009 due to the impact of the global financial crisis, during the period 2005-2014 we increased the state exporting to an absolute amount of 100% to 270%, ie. the states have increased the trade for more than three times. If there is an impact of monetary integration on increasing international trade of Member States it can be seen in the case of countries in the regime of exemptions. While Lithuania and Slovakia have increased exports by 270% in the same period, Denmark has increased its exports by 22%, UK 21% and Sweden 17%, which is 5 times less than the state with the lowest export growth in the EMU.

## Discussion

Increasing trade between Member States, which form a monetary union, is the result of previously meeting and realized the benefits of monetary integration. In order to increase trade between countries, first need to reduce the transaction costs of exchange, to increase price transparency to eliminate the uncertainty of exchange rate fluctuations, which means that the increase in trade is secondary benefit of monetary integration.

Of great importance of this research is the review of the position of exports and imports in the period from 2005 to 2014, in order to assess the level of their fulfillment. The period from 2005 to 2015 is used for showing the impact of monetary integration on increasing trade before and after the global financial crisis, and 2005 was chosen because of the large expansion of the European Union in 2004.

## Conclusion

Looking at the eurozone and compared with the other two leading world economies, it can be concluded that it is relatively open. In 2012, the combined value of exports and imports of goods and services accounted for 44% of GDP, while in the United States and Japan, the share was 15%. It can be concluded that the EMU open zone and that this openness increases from year to year. The greatest impact of openness exists within EMU countries, which have increased mutual trade and financial flows.

An analysis of impact of monetary integration on international trade flows is necessary in absolute terms. In absolute amounts, European monetary integration has contributed to an increase in exports to the Member States to 270% in the ten-year period. This is the result of expanding markets, volume and exchange of goods and services. In monetary union it comes to expansion of market integration between the countries, which contribute to the reduction of national borders in choosing economic activity, which is produced closer to consumers regardless of the country from which the company originates. Price transparency, elimination of transaction costs and the elimination of exchange rate uncertainties contribute to the increase of international trade in countries of the monetary union. Finally, it can be concluded that the hypothesis that the monetary union will increase the volume of trade is true, and that the Andrew Rose effect is largely met.

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